

**REPORT OF THE
VIRGINIA DEPARTMENT
OF MOTOR VEHICLES ON**

Combating the Drug-Impaired Driver

**TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA**



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RICHMOND
1986**

Combating the Drug-Impaired Driver

A Prescription for Safer Highways



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**COMBATING THE DRUG-IMPAIRED DRIVER:
A PRESCRIPTION FOR SAFER HIGHWAYS**

by

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**Prepared by the Virginia Highway & Transportation Research Council
under the Sponsorship of the Transportation Safety
Administration of the Virginia Department of Motor Vehicles**

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November 25, 1985

REPORT OF THE
VIRGINIA DEPARTMENT OF MOTOR VEHICLES
TO THE
GOVERNOR AND GENERAL ASSEMBLY
IN RESPONSE TO HOUSE JOINT RESOLUTION NO. 10

To: The Honorable Charles S. Robb, Governor of Virginia,
Mr. Andrew B. Fogarty, Secretary of Transportation and Public
Safety,

and

Members of the Virginia General Assembly

As directed by House Joint Resolution No. 10 (1984 Session), the Department of Motor Vehicles has had conducted a study of problems in the detection and prosecution of drug-impaired drivers in the Commonwealth. At the request of this Department, the study was conducted by the staff of the Virginia Highway and Transportation Research Council under the direction of a steering committee composed of representatives from many state agencies.

Though precisely defining the scope of the problem created by drug-impaired drivers is difficult, there is a consensus among law enforcement and medical officials that driving under the influence of drugs (DUID) is a dangerous phenomenon and poses a threat to public safety. Every state prohibits DUID; the recommendations in this report are derived from an in-depth study of the experiences of states actively enforcing their DUID laws.

There are several statutory impediments to removing the drug-impaired driving threat from Virginia's highways and streets. Foremost among these is the inability to obtain a specimen of body fluid from a DUID suspect for an analysis for the presence of drugs. This deprives the Commonwealth of the most meaningful evidence of

drug-impaired driving. Therefore, amendments to the implied consent law (Va. Code §18.2-268) and the driving-under-the-influence law (Va. Code §18.2-266) are recommended as set forth in Appendix D of the report.

Adopting these recommendations will require several supporting steps. The Division of Consolidated Laboratory Services must be given the capacity to analyze DUID specimens. Analytical techniques, specimen types, and lists of drugs to screen for are proposed. Further, the success of the measures recommended can be enhanced by providing law enforcement officers with improved training in recognizing drug-impaired drivers. Thus, it is proposed that a pilot project be undertaken to develop drug recognition experts for a program such as that used with much success by the Los Angeles Police Department and described briefly in the report.

The most significant cost of implementing the recommendations will be that for laboratory facilities to handle the required analyses for drugs. The annual operating costs are projected to be \$158,000 to \$217,000, depending upon the number of analyses performed. Initial capital expenses will range from \$245,000 to \$460,000, depending upon the number of analyses and the approach taken to providing the required laboratory space. The only other significant cost will be that for training drug recognition experts, which will cost \$5,000 to \$10,000, depending upon the type of pilot program conducted.

We believe that these proposals will help correct deficiencies in Virginia's laws on impaired driving and thereby promote safety on all the Commonwealth's highways.

Respectfully submitted,



Donald E. Williams, Commissioner
Department of Motor Vehicles

ABSTRACT

In recent years, the Commonwealth of Virginia has increased its efforts to improve highway safety by combating the problems created by drunken drivers. However, law enforcement officials still face major obstacles in their efforts to detect and prosecute persons who drive under the influence of drugs (DUID). The greatest impediment to DUID enforcement is the lack of certain crucial statutory provisions. Specifically, Virginia's implied consent law (Va. Code §18.2-268) does not allow a police officer to require a driver to submit to a chemical analysis of his bodily fluids to determine drug content. As a result, the state is precluded from obtaining the most meaningful evidence of drug-impaired driving. Additionally, the DUID offense (Va. Code §18.2-266(iii)) is not clearly defined, and thus leaves doubts as to the degree of impairment necessary to constitute a violation of the law. Finally, Virginia police officers' limited training in identifying the symptoms of drug impairment makes it difficult for them to detect DUID offenders and reduces the evidentiary value of their testimony at trial.

To remove these obstacles to DUID enforcement, it is recommended that Virginia follow the lead of the 31 states which include provisions for drug testing in their implied consent statute. To implement this change in the law, the Division of Consolidated Laboratory Services must be given the capacity to analyze DUID specimens. Should drug testing become a part of the implied consent statute, several other statutory amendments need to be made as well: (1) law enforcement officials must be allowed to test for drugs after a blood-alcohol test has been administered, (2) police must be allowed to designate the type of specimen to be obtained for testing, and (3) a person's refusal to consent to drug testing should be made admissible in a DUID case. The DUID offense in §18.2-266(iii) should be redefined to make it clear that drug-induced impairment of driving skills is the essence of the offense. To remedy the deficiencies in police training, Virginia officers should be given better instruction in the identification of drug-impairment as it relates to a person's ability to drive safely. A pilot project for developing specially trained "Drug Recognition Experts" is also recommended on the basis of the highly successful program used by the Los Angeles Police Department. Through this combination of strengthened DUID laws, improved training of police officers, and properly equipped testing facilities, Virginia should have the capacity to detect and prosecute the drug-impaired driver.

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The technical nature of much of this study required expertise in pharmacology, toxicology, and laboratory analysis. Invaluable assistance in these areas was provided by Dr. Robert Blanke, Professor of Pathology and Pharmacology/Toxicology at the Medical College of Virginia and Director of MCV Hospital Toxicology; and Hugh Granger, a graduate student in the Department of Pathology at the Medical College of Virginia.

Thanks go to Cheryl Lynn of the Virginia Highway and Transportation Research Council, who gathered and reviewed the epidemiological information.

Valuable legal guidance and detailed reviews of the various drafts were provided by Jeff Spencer, Assistant Attorney General and member of the Steering Committee. Other members of the Steering Committee who took time to travel to other states and prepare reports for this study were Chief Bowen, Rodney Chapman, Bob Horan, Clint Simpson, and Capt. Stanley.

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Stanley Peacock of the State Attorney's Office in Broward County, Florida, hosted the Steering Committee's delegation during its visit to Fort Lauderdale. He organized an excellent itinerary and enabled the delegation to meet and talk with many Florida judges, prosecutors, and law enforcement personnel.

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Many, many other people within the Commonwealth provided assistance to the study but have not been mentioned here by name. These

include Steering Committee members, Department of Motor Vehicles personnel, the support staff and Report Section of the Virginia Highway and Transportation Research Council, and people from many other agencies. All of their help is greatly appreciated.

Finally, thanks go to the hundreds of law enforcement officers, prosecutors, laboratory personnel, medical examiners, and highway safety department employees from the many states, and the personnel of the several federal agencies who were contacted during the course of the study. We were pleased by the willingness of people from other jurisdictions to share their knowledge and experiences.

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CHAPTER I
AN OVERVIEW

On March 2, 1984, the Virginia General Assembly passed House Joint Resolution No. 10, (HJR 10) as a response to a perceived need to improve enforcement of the Commonwealth's laws on drug-impaired driving (see Appendix A). Because of a general belief that persons illegally operating motor vehicles "while under the influence of narcotic or other self-administered drugs" are a threat to the safety of Virginia's highways but nevertheless avoid the reach of the law, the resolution mandates a study to "develop effective and practical procedures for detecting and prosecuting [such] persons." The Division of Motor Vehicles, which undertook this study at the request of the General Assembly, commissioned the HJR 10 Steering Committee to ascertain the status of enforcement of the laws proscribing driving under the influence of drugs (DUID) and to develop an agenda for improvement. The findings of the Steering Committee are presented in this report.

The investigation of drug-impaired driving started with an attempt to assess the magnitude of the problem. This involved three areas of inquiry: (1) the effects of drugs on driving, (2) the likelihood of people driving after drug use, and (3) the apprehension rate of drugged drivers. Experts agree that drug-impaired driving can be dangerous. The debilitating effects of both licit and illicit drug* use on a person's driving skills have been documented. For instance, the opiates (also known as narcotics and including heroin) are often used illegally. The sensation desired from this illicit use results from depression of the central nervous system, which also impedes driving performance. Diazepam (Valium), one of the most commonly prescribed licit drugs, has been found to decrease driving performance and increase the likelihood of an accident. Barbiturates have been shown to impair a driver's concentration, decrease his reaction time, and distort perceptions of speed. Yet these are only a sample of the vast multitude of drugs, and the variety of drugs' effects is great. Further, individual drugs are not always used alone. Combinations of substances can alter the effects of each, often producing more impairment than any single substance. This is also true of drug and alcohol combinations.

*Throughout this report, the term "drug" means drugs other than alcohol.

For instance, when each of the above-mentioned groups of drugs is used with alcohol, the combination produces greater impairment of driving than does either substance alone.

Although there has been much research into the effects of drug consumption on a person's ability to drive a motor vehicle, the resulting documentation does not compare to that available for the effects of alcohol on driving performance. Because of the vast number of drugs, no one of them has received the amount of study given to alcohol alone. There is even less information on the frequency with which persons drive under the influence of drugs. Because of the obvious reticence of illegal users of drugs to voluntarily reveal their usage patterns and the reluctance of prescription drug users to admit to disobeying a doctor's order not to drive after consuming a drug, self-reported information is extremely difficult to obtain. Further, a lack of public knowledge about the dangers of drug-impaired driving and the frequent inability of people to perceive their own impairment limit the value of information obtained in surveys. These limitations make it difficult to predict the amount of potentially dangerous drug use, not to mention the likelihood that people indulging in such use will drive while impaired. Nevertheless, some extrapolations are possible from accident-related data.

The sporadic nature of DUID enforcement and the fact that until recently relatively few states had authorized chemical testing for drug content have made it difficult to accurately assess the incidence of the DUID offense on the basis of police and court records. Nevertheless, epidemiological and law enforcement authorities agree that therapeutic and recreational substances are used by drivers. Virginia police officers report that an average of 17% of all drivers stopped for unsafe driving are suspected of being under the influence of drugs other than or in addition to alcohol. However, officers are, for reasons to be discussed shortly, usually unable to confirm these suspicions. Consequently, gauging the precise magnitude of the DUID problem is difficult. The effects of drugs on driving and the frequency of DUID are discussed in detail in Chapter II of this report.

Since research has shown that persons driving under the influence of drugs possess diminished driving skills, there is no doubt that they pose a safety hazard to other drivers. There are numerous approaches which can be taken to try to alleviate this problem. Efforts can be made to further restrict the availability of drugs through enhancing legislation such as the Drug Control Act of 1970 (Va. Code Title 54, Chapter 15.1). Physicians can provide their patients with stronger warnings on the potential effects of a prescription drug on driving ability. Educational programs in schools and through the media can be designed to emphasize the dangers of drug-impaired driving. And for those persons who are convicted of DUID, rehabilitation efforts can be

incorporated into the existing Alcohol Safety Action Programs. However, the mandate of HJR 10 requested a study of methods by which the drug-impaired driver can be detected and prosecuted, and the scope of this research was limited accordingly. Therefore, after trying to gauge the magnitude of the DUID problem, the Steering Committee turned to the experiences of other states to find ways to improve enforcement of Virginia's laws on drug-impaired driving.

Through a review of the DUID laws of all 50 states and the model provisions of the Uniform Vehicle Code, a series of telephone interviews with law enforcement personnel in other states, and on-site evaluations of DUID enforcement in Los Angeles and Fort Lauderdale, the committee developed an understanding of what successful DUID enforcement requires. These findings are set forth in Chapter III. The cornerstone of any DUID program is the inclusion of chemical tests for drugs within a state's implied consent statute. The reason tests are so crucial is that in most cases they provide the only evidence of drug consumption other than the defendant's behavior. Because the symptomology of drug impairment is difficult to identify with any certainty, evidence on the outward manifestations of impairment will rarely support a conviction by itself. Thus, chemical evidence of drug usage is necessary to show the source of the impairment.

Nevertheless, the inclusion of a drug test in a state's implied consent statute will not necessarily enable prosecutors to obtain a DUID conviction without some additional evidence. Drug test results cannot, at this time, be used in entirely the same manner as blood-alcohol tests. Blood-alcohol tests can be accurately performed and interpreted with a high degree of reliability, and have thus become judicially accepted indicators of alcohol impairment at the time of an offense. Drug testing can also be done with accuracy and reliability, but interpretation of the analytical result is more tenuous. Because of the wide variety of drugs there is less scientific documentation on any one substance's dosage/effect relationship than there is for alcohol. Also, because of the individualized nature of a person's reaction to a particular drug, it is difficult to draw a conclusion as to impairment solely on the basis of the drug content of a person's bodily fluids. Similarly, different drugs are metabolized at widely varying rates, and the by-products of some substances remain in a person's system for up to 30 days. Thus, a positive result does not necessarily mean a person was under the influence of the drug at the time of the test. This problem is more pronounced if the chemical test result is merely qualitative, showing only the presence or absence of the drug. Quantitative tests, which assay drug concentrations, mitigate this limitation somewhat but do not eliminate it. As a consequence of these characteristics of drug testing, it is not feasible at this time to develop presumptive levels of drug impairment as has been done with blood-alcohol tests.

Recognizing these limitations on the interpretation of chemical tests, those states which prosecute DUID offenders combine positive test results with testimony on the driver's behavior in an effort to correlate drug usage to the time of the offense. For example, some states have experts testify on test results, the known pharmacological effects of a drug, and the potential impact of the drug upon a person's ability to perform complex tasks such as driving. This testimony is then combined with the police officer's testimony on any physical manifestations of impairment which would correspond to the drug's alleged effects. The result is that a DUID case is usually divided into two parts: (1) testimony on the driver's behavior which shows impairment at the time of arrest, and (2) positive drug test results which show the cause of impairment.

After surveying the experiences of other states, the committee analyzed the status of DUID enforcement in Virginia. In light of what those states with effective programs have shown is required for successful enforcement, Virginia was found to be lacking the statutory structure necessary to detect and prosecute the drug-impaired driver. These limitations are explained more fully in Chapter IV. In a nutshell, the weaknesses in the Commonwealth's legal ability to enforce DUID laws are:

- An inability to perform chemical tests for drugs under the implied consent statute. Every state actively prosecuting DUID considers test results to be essential evidence.
- Absence of a provision for a second test in the event a blood-alcohol test is given and the results do not correspond to the driver's apparent level of impairment. Because drug use symptoms vary, are sometimes difficult to detect, and often are masked by combination with alcohol, other states report that drug impairment is usually not suspected until after a person completes a breath test.
- Failure to provide an arresting officer with a choice of tests. This creates a loophole by which a drug-impaired driver could evade police attempts to get the preferred type of sample since not all specimens are equally amenable to drug analysis.
- A DUID offense that is not clearly defined and does not explicitly make impairment of driving skills the central element of the offense. What the Commonwealth must prove to support a DUID charge is currently unclear.
- Absence of a separate offense for driving under the combined influence of alcohol and other drugs, or the combined influence of drugs other than alcohol. Since combined usage is very

popular and can cause impairment greater than that expected from any one substance, combinations should be specifically prohibited.

- An inability to introduce a driver's refusal to consent to chemical tests in a DUI trial. Because of the critical role which chemical evidence plays in a DUID prosecution, a refusal to submit to a test should be admissible.

Among these six statutory shortcomings, the lack of drug testing is the most significant. Virginia case law requires some evidence of the "agency which produced the intoxication" to sustain a DUI conviction. Miller v. Commonwealth, 214 Va. 689, 204 S.E.2d 268 (1974); Clemmer v. Commonwealth, 208 Va. 661, 159 S.E.2d 664 (1968). Because police cannot test for drugs, the only way to obtain this evidence is to find drugs in the car or on the person.

A secondary problem with the status of DUID enforcement in Virginia is the lack of police officer training in the DUID area. For a DUID charge even to be made, an officer must know enough to suspect drug involvement. Because most officers have only a rudimentary knowledge of the symptomology of drug impairment, it is difficult for them to justify a DUID arrest solely on the basis of a driver's observed behavior. In the event a DUID case should come to trial, the officer's lack of expertise would prevent him from offering his opinion as to whether or not the person was drug-impaired. Without some explanation of the significance of the symptoms observed, even that evidence is of little value. The problems caused by this lack of specialized training are exacerbated by the inability to test for drugs, making it virtually impossible for the Commonwealth to gather enough evidence of drug impairment to support a DUID conviction. Even if Virginia were to include drug testing in its implied consent statute, the inadmissibility of an officer's suspicions of drug impairment would diminish the Commonwealth's ability to correlate chemical test results to the time of arrest. Reliance on medical experts might be required.

Because of these statutory and enforcement weaknesses, the DUID enforcement picture in Virginia is a bleak one. Despite police estimates that between 10% and 40% of the persons they stop for unsafe driving may be under the influence of drugs, only 132 persons have been convicted of DUID since 1973. As Table 1 shows, the number of convictions fell from 22 in 1983 to only 4 in 1984. In all likelihood, these low numbers do not represent an insignificant drug-impaired driving problem, but rather reflect the previously discussed obstacles to detection and prosecution. Along these lines, it may be helpful to briefly examine the history of enforcement of the laws on drunken driving in Virginia.

In the early 1970s, relatively few arrests were made for driving under the influence of alcohol (DUIA). For example, in populous Fairfax County, there were fewer than 200 DUIA arrests in 1971, despite a perception among local police that the number of alcohol-impaired drivers on the road was far in excess of 200. According to the 1983 Report of the Governor's Task Force to Combat Drunk Driving, there were several reasons for the discrepancy between the perceived magnitude of the problem and the number of arrests. At that time, society did not fully recognize the dangers of drunken driving, and driving home after consuming a few drinks was not perceived to be a reprehensible act. Furthermore, Virginia had some of the nation's toughest penalties for DUIA, making judges reluctant to enforce them for what was thought to be a relatively harmless crime. From the policeman's perspective, the DUIA arrest process was a cumbersome one. Blood was the only bodily fluid that could be tested, and a warrant showing probable cause to perform the test had to be issued by a magistrate before a sample could be drawn. Finally, there was a widespread belief that only one or two drinks would put a person over the 0.15% presumption of intoxication. As a result of these factors, relatively few of the alcohol-impaired drivers on the road were arrested and even fewer were convicted.

Then, in 1972, three things happened: (1) the Virginia General Assembly lowered the presumptive level of impairment to 0.10%, (2) results of breath tests were made admissible into evidence by statute, and (3) the first Alcohol Safety Action Program (ASAP) became operational in Fairfax County. The ASAP stressed the education of judicial and enforcement personnel, streamlining of the arrest and adjudication process, and the availability of legitimate treatment alternatives to the punitive sanctions provided by law. The result of these efforts was an increase to 3,000 arrests in Fairfax County in 1972; a 1,500% increment in just one year. In 1984, there were 42,907 DUIA arrests statewide.

TABLE 1
DUID CONVICTIONS, 1973-1984

	<u>Nonprescription drugs</u>	<u>Prescription drugs</u>	<u>Annual Total</u>
1973	7	--	7
1974	8	--	8
1975	3	--	3
1976	4	--	4
1977	7	3	10
1978	10	4	14
1979	11	2	13
1980	17	1	18
1981	18	2	20
1982	7	2	9
1983	16	6	22
1984	3	1	4
-----	-----	-----	-----
Cumulative Total	111	21	132

Source: DMV Driver Services

The history of DUIA enforcement in Virginia makes it clear that the paucity of DUID convictions should not lull the Commonwealth into believing that drug-impaired driving is not a problem within its borders. What are the problems and the weaknesses in Virginia's system of enforcement that make the detection and prosecution of the drug-impaired driver exceedingly difficult. Because of an inability to test for drugs, an undefined DUID offense which leaves the elements of the crime in question, and a police force inadequately trained in the identification of drug-impaired drivers, police and prosecutors are ill equipped to combat the safety hazards posed by the drug-impaired driver. However, just as legislative and law enforcement action brought the number of DUIA arrests and convictions into proportion with the magnitude of the problem, similar action may enable law enforcement personnel to bring far greater numbers of drug-impaired drivers within their reach. The Steering Committee's proposals for implementing such a program are contained in Chapter V and summarized in a brief list of recommendations in Chapter VI.

CHAPTER II
MAGNITUDE OF THE DRUG-IMPAIRED DRIVING PROBLEM

Introduction

There is a consensus that drug-impaired driving is dangerous, as evidenced by the fact that all 50 states make it illegal. The Virginia legislature expressed this opinion as early as 1926, when the first DUID prohibition was added to the Commonwealth's laws. Experts also agree that drug use increases the risk of having an accident, but elaborating on the nature and size of that risk is problematic. The tremendous variety of drugs and their myriad applications and wide-ranging effects make precisely describing the problem very difficult.

Defining the magnitude of the drug-impaired driving problem is thus different than doing the same for drunken driving. Paradoxically, it is vigorous enforcement of DUIA laws which has helped create the current heightened awareness of the DUID threat. The impetus for a rethinking of DUID enforcement strategies in many states has been the significant number of drivers stopped who demonstrate impairment yet do not fit the description of alcohol intoxication, often showing a low blood alcohol content (BAC) when tested. Alcohol, however, has the same type of effect on all who use it, with predictable increments in impairment correlating to increased consumption. This is not as true for drugs, and the fact that different drugs produce different effects compounds the difficulty of simply defining the threat that DUID poses.

Several factors affect the contribution of any particular drug to the overall highway safety threat. These include (1) the impairing side effect produced by the drug, (2) the drug's potency or ability to debilitate a driver even at low doses, (3) the availability of the drug, (4) the frequency with which it is used, and (5) the likelihood of users driving after taking the drug. The approach taken in this chapter is first to survey the known effects of various drugs on driving ability through discussion of the substances by commonly used categories. The second part of the chapter describes what has been learned about the usage of drugs in the driving population, particularly from studies of accident victims. Then, an attempt is made to describe the frequency of DUID arrests which can be expected in Virginia by extrapolating from related statistics and using the opinions of law enforcement officials in the Commonwealth.

The term "drugs" is used broadly in this chapter as it is used throughout this report, meaning all drugs except alcohol. This includes both prescription and nonprescription drugs. In fact, the prescription/nonprescription distinction is not useful in the DUID

context, for either kind of drug may produce impairing side effects. Similarly, the legal/illegal dichotomy is not useful. Both may produce impairment, and legal or prescription drugs may be obtained and used illegally. Any drug can be taken improperly or in excessive amounts, and with some drugs, any departure from the prescribed regimen can lead to unwanted effects. Drugs which have no legally recognized therapeutic value are most likely to be dangerous because they are used for their nontherapeutic attributes; but even here no conclusive generalization can be made. For DUID purposes, "drug" has a meaning similar to that given it in Va. Code §54-524.2(b)(12) "... substances, other than food, intended to affect the structure or any function of the body of man or other animals." (Emphasis added.) There is no need to distinguish the various drugs based on their legal status.

Effects of Drugs

The variety of drugs makes generalizations about their effects on driving ability impossible. Some drugs are more dangerous than others. Any discussion of this subject must look at individual substances or classes of closely related substances. The actions of drugs are substance specific and may be somewhat specific to the user. Some drugs lend themselves to tolerance, and some require adherence to a regular schedule of administration to avoid undesired effects. However, the effects of drugs are usually enhanced by increased dosages, like alcohol. Thus, the need to identify the particular substance or class of substance is important when collecting evidence to be used in a DUID prosecution. It would be helpful to identify the method of administration, the amount present, and, perhaps, the suspect's previous experience with the drug, as all these factors may play some role in assessing whether the person is under the influence of the drug. In most instances, though, quantification of the amount of drug present in the bloodstream when compared with observed behavior will be adequate to establish a correlation between the cause and its effect.

Also, describing the effects of drugs on driving ability suffers from a lack of consensus on what skills contribute to driving performance and what change in those skills amounts to impairment. The sheer number of drugs available and the variety of effects they can have also dilute the amount of documentation and research available on any one substance. Nevertheless, this section attempts to outline the impact of several psychoactive drugs on sensory and psychomotor skills, as well as their impact on driving skills as measured in the laboratory using driving simulators and on closed-course driving ranges. The extent to which each drug is known to be involved in traffic crashes and the accident experiences of known drug users are also examined. These findings can help elucidate the relative risk of operating a motor

vehicle under the influence of these drugs or classes of drugs. Though not comprehensive, these descriptions cover many of the more popular and potent drugs, and are, therefore, illustrative.

This information on the effects of drugs has been derived primarily from a study done by Dr. Robert V. Blanke and R. Hugh Granger of the Department of Pathology and Pharmacology/Toxicology of the Medical College of Virginia. At the request of the committee, this study surveyed the scientific literature on the effects of drugs on driving. An excellent bibliography is contained in their report, which is available from the Virginia Highway and Transportation Research Council.

Combinations

The known effects of drugs may be either decreased or enhanced if the substance is used in conjunction with other substances. This is important in light of the statistical evidence of the frequent use of two or more substances in combination, particularly the use of drugs in combination with alcohol. Multiple drug ingestion or use of drugs in combination with alcohol often leads to additive or synergistic "acceleration" of the substances' effects. This is because one substance may modify the other's absorption, making its onset and degree of action different from normal. In some instances, this may make a drug act more quickly or powerfully than it normally does. Also, the substances may compete with each other for metabolism, thus changing the effects of both (or all), especially if the metabolites (the chemical products of the body's reaction with the drug) are also active substances. Drugs may influence the excretion of one another, promoting their accumulation in the body or increasing the rate of their elimination. These changes may produce corresponding alterations in the expected effects. In some instances, this may mean an exaggeration or prolongation of the effects.

Benzodiazepines

The benzodiazepines are antianxiety agents, or tranquilizers. Among the most well-known members of this group are diazepam, which appears under the trade name Valium, and chlordiazepoxide, also known as Librium. The benzodiazepines are of particular concern in DUID because they are among the most frequently prescribed medications in the United States and the drugs most frequently found in chemical tests done in states enforcing DUID laws. The pervasive use of Valium is well known.

Benzodiazepines produce effects very similar to those of alcohol, and impairment increases as the dosage taken increases. Coordination and the ability to react to emergency situations are definitely

impaired, which leads to accidents in driving simulator tests. Although there are some variations in effects among the benzodiazepines, the reactions usually last at least 5 to 6 hours. One of the most significant effects of these drugs is that the user is unable to assess his own impairment and thus is unlikely to refrain from driving. Regular usage can lead to an accumulation of the drug in the body, and consequent adverse effects on driving skills after the therapeutic benefits of the drug are gone. Metabolites of these drugs are frequently active as well and influence the duration of the effects.

The benzodiazepines are often used in combination with alcohol. This is particularly true for Valium, where the interaction of the two substances is known to be dangerous. This phenomenon is borne out by studies which have shown Valium to be present in up to 20% of drivers injured in accidents, about half of the time in combination with some other drug or alcohol.

Barbiturates

The barbiturates include many substances, all central nervous system depressants or sedatives. Their effects are directly correlated to dosage, tolerance is possible, and the duration of the effects varies among drugs in this class. These effects resemble those of alcohol and the benzodiazepines, including powerful hypnotic effects and significant hangover impairment.

Both barbiturates and alcohol are classified as central nervous system depressants. Combinations of these substances may thus lead to more intense effects than if each is taken alone.

Barbiturates have been found in up to 10% of accident victims, although it is not known if this percentage is proportional to or higher than the usage rate in the public in general.

Amphetamines

Amphetamines are stimulants, and consequently can actually improve driving performance if taken in therapeutic doses and for short periods of time. Even then, however, there is sometimes a problem with the user overestimating his performance and underestimating the risks of a situation, and this overconfidence can be dangerous. More dangerous is the effect of cessation of use, or the phenomenon of "crashing." Abuse of amphetamines results in mental exhaustion and impaired concentration. Though the data are meager, amphetamine users have been found to have a higher accident rate than nonusers. After extensive evaluation of this

class of drugs by the military, plans to improve performance with low doses were abandoned over forty years ago.

Opiates (Narcotics)

The opiates are analgesics or painkillers derived from the opium poppy and are sometimes called narcotics. Included in this group are codeine, morphine, and heroin. Addiction to opiates is very easy to develop. The effects of opiates are known to produce impairment, and the effects of long-term use after addiction can also be debilitating. Some tolerance to opiates can be developed, however, this is offset by the fact that opiates are often abused, being used at concentrations that result in impairment. This phenomenon of users increasing the dosages of a drug in response to their adaptation to it often offsets the reduced effects of tolerance.

Most opiates are central nervous system depressants, so their use in combination with alcohol prolongs the effects of both. This is particularly true of codeine, one of the more commonly used opiates.

Two synthetically produced analgesics, methadone and meperidine (also known as Demerol), may lack some of the adverse effects of the opiates. Both, however, are abused and are known to be debilitating at abusive concentrations.

Little is known about the use of opiates among drivers because of the often illegal nature of opiate use, but one study concluded that opiate users are twice as likely to die in an automobile accident than nonusers.

Marijuana

Marijuana is a term applied to those portions of the Cannabis plant likely to include a high concentration of the active ingredient Delta-9-Tetrahydrocannabinol (THC). THC is one of the cannabinoids formed by this plant and is generally accepted as the component chiefly responsible for the effects desired by abusers of marijuana. THC may be present in a variety of plants, substances, derivations, and forms, all of which are often collectively referred to as marijuana. See Va. Code §54-524.2(b)(16). It may even be produced in a laboratory. Throughout this report, "marijuana" means the cannabinoid THC, however obtained.

Marijuana is one of the most frequently abused drugs and one of the most frequently encountered in drivers. Daily marijuana users often admit to driving after using the drug. The effect of marijuana use on driving is controversial, however. This is possibly because a common

effect of marijuana use is passivity and a tendency to avoid risks, both of which are inconsistent with dangerous driving behavior. Adding to this view is the tendency of marijuana users to perceive themselves as being impaired. Countering this, though, is some evidence suggesting that reaction time is increased and the ability to react to multiple stimuli is impaired. There is some correlation between debilitating effects and dosage, so the support for impairment at very high doses is stronger than for average amounts.

While marijuana use alone may be equivocal in its effect on driving ability, the combination of marijuana with alcohol is not. The reported popularity of this combination is significant, because it is acknowledged that the combination produces an additive impairment.

An inherent weakness of any study trying to predict whether drug users are more likely to have accidents than nonusers is that the life-styles which tend to lead to drug use also tend to lead to accidents, regardless of drug use. This fact complicates efforts to determine the threat of marijuana to highway safety. Though marijuana is one of the most commonly used drugs, studies suggest its users may actually be underrepresented in accident fatalities but overrepresented in accident injuries. Thus, though the evidence on marijuana is not conclusive, it can produce impairment at sufficiently high dosages, particularly when combined with alcohol.

Hallucinogens

Among the hallucinogens are LSD, mushrooms, and peyote. Though little is known about the usage of these drugs and the frequency at which they are found in accident victims, the extreme nature of their effects makes them very dangerous. The effects may be long-lasting and may reoccur without warning (flashbacks). These dramatic effects are often unpredictable, and frequently result in significant distortions of the user's perception of reality that increase his threat as a driver.

Although technically not a hallucinogen, phencyclidine (PCP or angel dust) can produce similarly dramatic effects. It is known to produce aggressive and violent behavior, and is agreed to be highly debilitating. It is often combined with other drugs, frequently without the user being aware of the combination. Its reputed popularity in the metropolitan Washington, D.C. area makes its use a concern in Virginia.

Antihistamines

Antihistamines are a widely used medication available over the counter in many forms. They are used to treat hay fever, allergic

reactions, insomnia, and ulcers. Principal side effects are drowsiness and, at high doses, sedation. These effects may be somewhat more idiosyncratic than those of some of the other drugs, however.

Antihistamines produce additive impairment when used in combination with alcohol and Valium, with some of them interacting strongly with Valium.

Cocaine

Cocaine may be the most commonly abused drug, next to marijuana. Its relatively recent surge in popularity means that there is a dearth of documentation of its effects, but this popularity and the probability that it may impair driving make it worth examining.

Miscellaneous Drugs

Antipsychotic drugs modify the communication between nerve cells, and thus intuitively seem dangerous. Yet therapeutic dosages and regular use may overcome these effects, and any danger results primarily from sporadic use.

Some hypnotic drugs may produce acute hangover effects. The recovery from anesthetic doses is of concern where persons drive after undergoing outpatient surgery. One hypnotic, methaqualone or "quaaludes", was at one time a severe problem. Several years ago in Florida, methaqualone accounted for 93% of all drugs detected in DUID chemical tests. Outlawing it has reduced the frequency with which it is now found.

Antidepressant drugs may adversely affect driving skills. The problem is pronounced for repeated high doses. However, when used therapeutically to alleviate conditions which in themselves impair driving, these drugs may actually improve driving performance. They may act synergistically with alcohol to produce exaggerated impairment. The tricyclic antidepressants, such as amitriptyline, are found in a significant number of emergency room overdose cases in metropolitan areas. Because of this and their potential to impair, they are of concern.

Other drugs which may affect driving ability include certain cardiac (heart) and antihypertensive (blood pressure) medications. Lidocaine, a local anesthetic that also has some cardiac applications, has been shown to produce significant impairment.

Summary of Drug Effects

The preceding sections do not cover all drugs, nor do they cover all drugs which may impair driving. They do illustrate some of the effects which the multitude of drugs may produce, and it is undeniable that these effects can pose a serious safety hazard. Still, the variety makes describing these effects difficult and any attempt to do so inadequate. But this variety and the inadequate understanding of the potential effects of drugs on driving ability also make the threat all the more ominous because the nature of the problem is not fully understood.

Accident Involvement of Drug-Impaired Drivers

Another facet of defining the magnitude of the problem posed by drug-impaired drivers is determining the likelihood that they will be involved in accidents. This is related to both the previous section, the effects of drugs, and the following topic, the frequency of drug-impaired driving. The combination of impairment and driving will likely result in some accidents. This section might more appropriately be called "The Danger of Drug-Impaired Driving."

Several indicators can be used to assess the accident proneness of drug-impaired drivers. The incidence of drug use among fatally injured and accident-involved persons, the incidence of drug use among persons arrested for DUIA, and the frequency of accident involvement among known drug users can be analyzed. The utility of these studies is limited in that they did not compare drug-impaired drivers to the general population of drivers and were conducted in other states where conditions may not be entirely similar to those in Virginia. Still, several viable inferences can be drawn, and behavior in other areas is not likely to be totally dissimilar to that in Virginia.

The statistical research relating drug use to accident records falls into four categories: (1) studies of fatally injured drivers, passengers, and pedestrians, (2) studies of persons treated in hospital emergency rooms, (3) studies of the driving records of known drug users, and (4) studies of suspected drunken drivers. While studies of drug use among victims of automobile crashes suggest an association between drug use and crashes, they do not definitely determine that DUID is a problem. In the classical epidemiological approach, the percentage of drivers killed in crashes while under the influence of drugs would be compared to the percentage of drug users among all drivers facing the same situation as those killed (i.e., passing the same location under similar weather and lighting conditions). The latter percentage is known as the population at risk. However, since it is difficult to assess the percentage of drug-impaired drivers among all drivers facing

the same driving circumstances, it is difficult to conclusively say whether the drug users are more prone to accidents. Nevertheless, studies of drivers deemed at fault in accidents where drugs were involved present evidence that drug use causes accidents. These studies strengthen the inference that drug use is a problem.

Estimates of drug use by persons involved in fatal accidents range from 10% to 29%.⁽¹⁾ The range may be due to the variety of states surveyed and the years in which the studies were conducted. The estimates also vary in the drugs tested for and the types of victims included. If only drivers are included, the percentages tend to be higher. A higher than average incidence is also found in adult pedestrians killed, but the highest percentages are for fatally injured young male drivers.⁽²⁾ The number of drugs detected and the evolving technology of drug analysis also account for some of the variations. Obviously, the more drugs tested for, the higher the overall rate of drug usage will be. Further, drug use does change over time, and new or newly popular drugs are usually underreported. Paralleling these studies are studies of injured persons treated in emergency rooms. Here, usage rates of drugs vary between 7% and 22%.⁽³⁾ This information suggests the number of motor vehicle casualties that may be attributable to drug use.

While statistics on drug usage by the population at risk are unavailable, several studies have used assigned risk as a reference point. In those studies, independent raters read detailed accident reports and subjectively determined, without drug-related information, which driver was most "at fault." A recent study found that among young male drivers killed in fatal crashes, 87% of the drivers who were found to have been taking drugs had been most at fault, compared to 71% of the drivers who had not been taking drugs.⁽⁴⁾ Another study found that 76% of the drug group was at fault, compared to 41% of the drug free group.⁽⁵⁾ Among drivers treated in hospital emergency rooms, 53% of the drug users were most responsible for the crash compared to 34% of the nonusers.⁽⁶⁾ These studies indicate that there is a relationship between being "at fault" in a serious accident and being under the influence of drugs.

Another group of drivers who had received considerable attention are known drug users. Several studies have found that drug users in general have worse driving records than nonusers.⁽⁷⁾ These studies, however, must be interpreted in light of the fact that drug users and nonusers often differ in attributes other than drug use. With regard to recreational drug use, age, sex, and life-style may differ. For instance, drug users tend to be younger than nonusers, and it is well documented that younger drivers have more accidents than older drivers regardless of drug use. Life-style may also play an important role. Drug users tend to have more convictions on their driving records than

nonusers; however, most of this difference is accounted for by equipment violations (no inspection, improper equipment, defective equipment) and by financial responsibility violations (no insurance). When these violation types are removed, conviction rates are often the same for users and nonusers. On the other hand, several studies have selectively controlled some of these variables in life-style and age and still found drug users to be more likely to be involved in an accident.

There is a similar coincidence of predisposing factors among users of antipsychotics and antidepressants. Many persons for whom these drugs are prescribed suffer from mental disorders, and psychiatric patients are known to have a relatively high accident rate regardless of their drug use. Because of their ability to relieve the effects of mental problems, antipsychotics and antidepressants sometimes improve driving performance.⁽⁸⁾ However, departures from prescribed dosages and administration schedules can lead to unwanted effects.

Statistical Studies of Combined Drug Use

One of the most common patterns of drug use, both in the general population of drug users and among drivers, is the simultaneous use of two or more drugs.⁽⁹⁾ The most common combinations involve a drug and alcohol, although combinations of drugs exclusive of alcohol are used to a significant degree. With few exceptions, the use of alcohol and drugs in combination produces additive or synergistic effects.

From studies of crash victims, it is evident that multiple drug use is the rule rather than the exception. In one recent study of fatally injured young male drivers, 43% were found to have been using two or more drugs simultaneously. Among drug users, multiple drug use was found to have been two to three times more common than single drug use.⁽¹⁰⁾ These multiple drug users were found to have been "at fault" in 96% of the cases, compared with 87% for the total drug use group and 71% for the drug free group. Drivers who had used alcohol alone were found to have been responsible for 92% of the crashes, which indicated that multiple drug users were slightly more likely to have caused the accidents. Even at low BAC levels, additive impairment is noted, especially with regard to the barbiturates, the benzodiazepines, and the antihistamines. In the case of marijuana, the combination of the drug with alcohol may in some cases produce impairment where the drug would not alone.⁽¹¹⁾

Several other studies have found that between 17% and 25% of suspected drunken drivers with low BACs tested positive for other drugs.⁽¹²⁾ One study that examined only drivers with high BACs (greater than 0.10%) found that 40% had also been using drugs.⁽¹³⁾ The most common drugs noted in these studies of suspected drunken drivers were

diazepam (Valium) and the barbiturates.(14) These findings support the creation of a combined drug and alcohol or multiple-drug use offense.

In conclusion, studies of crash victims have indicated that drugs are involved in a nontrivial percentage of fatal accidents. The relationship between drug use and accident involvement is substantiated by the fact that drug users are more likely to be "at fault" in fatal accidents. Drug users also seem to have higher accident and conviction rates than nonusers, but these figures may be somewhat inflated due to differences in age and life-style rather than differences in drug use. Finally, using more than one drug, especially combining alcohol with one or more other drugs, and driving is a common practice and often produces greater and longer lasting impairment than using one drug alone. This practice seems even more dangerous than individual drug or alcohol use, as the altered effects would suggest.

The Frequency of Drug-Impaired Driving

To adequately define the magnitude of the problem created by drug-impaired driving, the potential effects of drugs must be correlated with the frequency with which people under the influence of drugs drive. In theory, were no one to drive after using drugs, DUID would not be a problem. But the experience of other states and the consensus of Virginia law enforcement personnel is that drug users do indeed venture onto the streets and highways while under the influence. Attempts to precisely describe the incidence of this behavior suffer from some of the same limitations and lack of documentation encountered in describing the effects of drugs on driving ability. The large number of drugs limits the comprehensiveness of any effort to predict the frequency of driving after drug use; no survey can check for all drugs. Such an effort is also made difficult by the inadequacy of the data on usage itself.

The extent to which drugs are used depends very much on the supply and popularity of the various substances. The availability of legal or prescription drugs fluctuates with preferences of physicians and with the success of marketing. For illegally obtained drugs, availability varies with the relative success of smugglers and law enforcement personnel. Further, usage patterns (and supply) often vary geographically. Thus, data from regionally specific studies are helpful.

Discovering the usage rate of illegal drugs is very difficult because of the obvious secrecy which usually accompanies their sale and administration. Doctor-patient confidentiality also limits the ability to assess the use of prescribed medications, and patient compliance with prescription dosages is even less discernible. Also, the rate of noncompliance with prescriptions simply has not been studied much. Thus, there are little data on drug usage patterns, and even less on the likelihood that a person will drive after such use. Prospective studies suffer from the privacy concerns voiced above, and confirmation of self-reported usage would require intrusive chemical testing.

Though general drug usage patterns and subsequent driving tendencies are not known, the number of people likely to be caught while driving under the influence of drugs can be predicted. This is not the same as estimating the overall prevalence of DUID, since not everyone will be caught. It is not unlike predicting the accident proneness of drug-impaired drivers, except that it is more comprehensive. Estimates of the number of DUID arrests to expect should include persons expected to be apprehended in all manners whether following an accident or in a chance encounter with a police officer on the road.

An attempt will be made to use this perspective to develop estimates of the incidence of DUID in Virginia. Anecdotal and opinion evidence from police officers, as well as studies of impaired drivers apprehended, is available. Also, extrapolations can be made from studies of blood alcohol testing. The similarity of all these projections can allow a derivation of some idea of the probable extent of the drug-impaired driving problem in Virginia.

DUID Studies and Perceptions in Virginia

There are few data on DUID in Virginia. There is no indication on the Virginia accident report form as to whether drugs other than alcohol are involved, so the drug-related accident rate in the Commonwealth is unknown. No study of drug use among all drivers in Virginia was found. While the experiences of other states are probably not totally dissimilar to that of Virginia, the fact that some geographical variations in drug usage patterns persist does limit the predictive value of studies done in other states.

There is one source of information that combines data on drug use with known problem drivers. This is the referrals by the ASAPs to substance abuse treatment programs of the community service boards. The people referred usually have been convicted of DUIA. Of 1,877 people admitted to the treatment programs from March 1, 1983, to May 31, 1984,

223 reported a primary drug of use other than alcohol, and 2,088 reported secondary use of a drug other than alcohol. Of these drugs, marijuana was the most common, at 68% for primary use other than alcohol and 80% for secondary use. A conservative estimate of this referral population's use of drugs other than alcohol is 25%, and 49% use these drugs several times a week or more. Since these data are self-reported (and in an awkward situation for the client in that they are convicted drivers), they may well underrepresent the actual drug use in this population. This data from ASAP referrals suggest that the correlation between drug use and impaired driving found elsewhere applies in Virginia as well.

Resort may be had to other data, primarily data obtained in several studies from the law enforcement perspective and extrapolations from a laboratory study done several years ago. Before examining these, though, a discussion of the DUID conviction rate over the last decade may be useful. This is the starting point for any discussion and shows both that DUID does occur and that enforcement is probably inadequate. The reader is cautioned that these are DUID convictions, not arrests (the DUID arrest rate is not known), and that neither is a very accurate estimate of the magnitude of the drug-impaired driving problem, since it is probable that all violators are not caught. Further, state police have commented that, due to the current statutory limitations, convictions usually result from situations where drugs are found in a vehicle or the driver voluntarily admits to having used drugs. Between 1973 and 1984, there were 132 DUID convictions in Virginia, with 111 representing the use of nonprescription drugs and 21 involving prescription medications. Given that there are around 43,000 DUIA arrests each year, and that almost all result in convictions, the rate of DUID convictions is low by any estimation. That perception is reinforced by the deficiencies which prompted this study.

The low conviction rate for DUID is a very interesting parallel to the early experience with DUIA enforcement. In 1971, there were very few arrests for DUIA statewide. The arrest process was cumbersome and breath testing was new and time consuming, both of which were disincentives for law enforcement. Further, the public perception was that DUIA was not a severe problem. Yet the ASAPs were effective in heightening public awareness of the drunken driving problem, educating the judiciary and law enforcement community, and streamlining the arrest and other procedures. The result was a dramatic increase in DUIA arrests, by several orders of magnitude. In many ways, DUID is currently like DUIA was in the early 1970s; there is little experience in handling and processing cases and detection methods are new and cumbersome. Should the recommendations for strengthening DUID enforcement contained in this report be adopted, the number of DUID arrests can be expected to increase, perhaps dramatically.

Surveys of Virginia law enforcement officials have confirmed this observation. The inability to collect meaningful evidence because of the unavailability of chemical testing often leads officers to charge DUID suspects with reckless driving or some other lesser offense. The reckless driving charge is much easier to prove than DUID when the only evidence is likely to be the officer's testimony. Yet a survey of state police officers from across the state produced a unanimous opinion that DUID is indeed a problem. Every officer contacted supported strengthening enforcement capability and enhancing police training. Estimates of the percentage of all drivers stopped for being impaired who may actually be under the influence of drugs ranged from 10% to 40%, with a mean of 17%. See Figure 1. Several of the officers stated that because they had received little special training in recognizing the symptoms of drug use, their estimates might be low. Also, a survey of police officers in several districts of Fairfax County confirmed that DUID is a significant problem. There, the thirty-five officers surveyed indicated a possibility of drug involvement in better than half of the impaired drivers they apprehended over a several month period.

A prospective study estimating the frequency of DUID among all drivers was conducted in May and June of 1985 in Henrico County. During these months, officers were asked to report how often they suspected drug use in the drivers they arrested. The officers were asked whether they would have used a DUID arrest procedure if one were available requiring time and effort similar to the current alcohol testing. This study indicated that officers suspected drug involvement in 12.6% of all arrests.

One laboratory study of the presence of drugs in drivers apprehended for DUIA has been conducted in Virginia.⁽¹⁵⁾ This 1979 study by the Division of Consolidated Laboratory Services examined all DUIA blood samples where the BAC found was less than 0.10%. Of the drivers represented by the samples, 16% were found to have been using drugs. Significantly, though, this test did not look for several more common drugs such as marijuana, heroin, LSD, oxazepam (a benzodiazepine), the tricyclic antidepressants, and various antihistamines. These omissions suggest that the percentage of drug users may actually have been higher. Interestingly, 84% of the samples containing drugs also contained some alcohol. This bears out the tendency of drug users to combine drugs with alcohol. Also, the sample population may have been somewhat skewed in that the study surveyed only persons who had chosen a blood test rather than a breath test. Still, the information is more definitive than anecdotal opinions.

Projections of the number of DUID tests expected were made by the study of chemical testing options (See Chapter V and Appendix B) in an attempt to arrive at cost estimates for implementing a testing program. Since each chemical test must be preceded by a DUID arrest, this is a

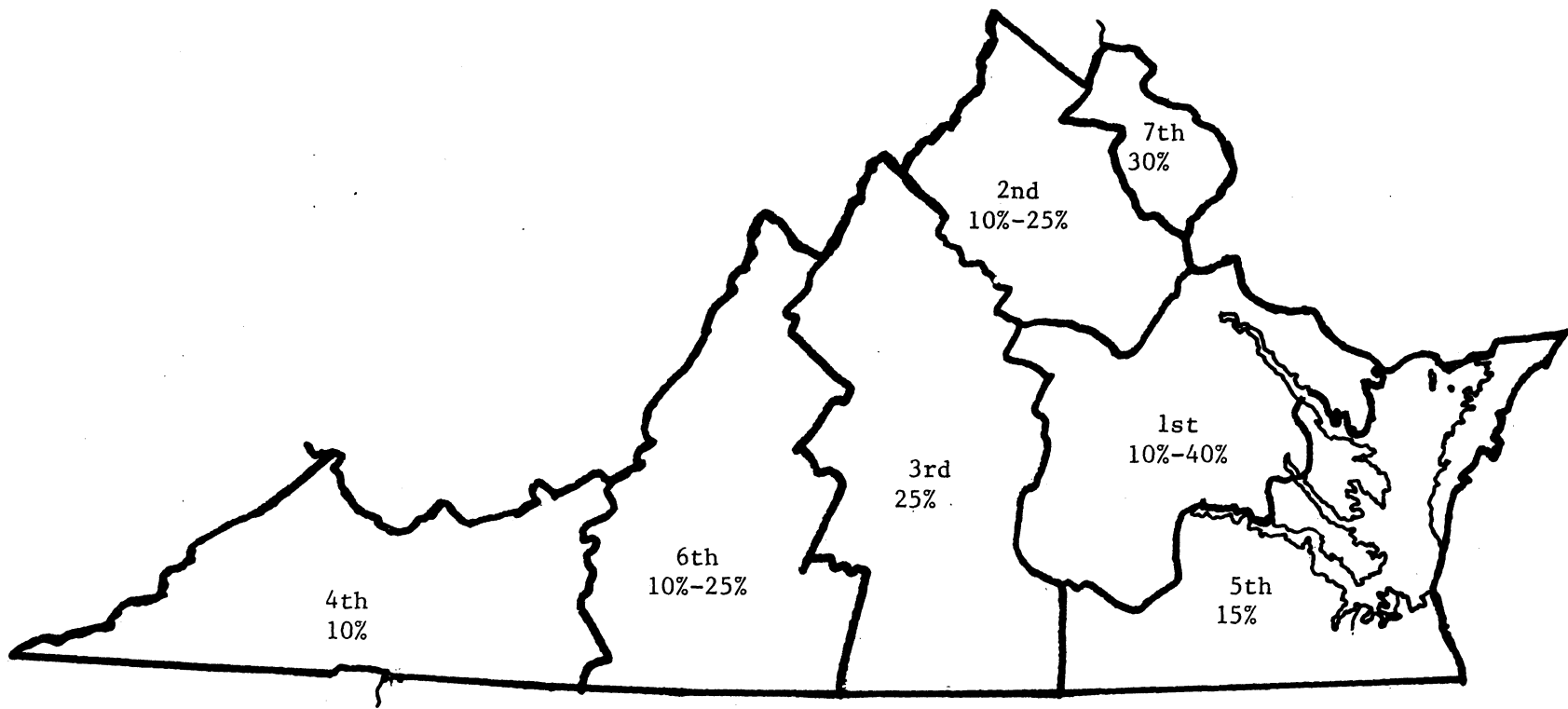


Figure 1. Virginia State Police Divisions with trooper estimates of percentages of drivers stopped who are under the influence of drugs.

source of estimated arrest data, too. A comparison of these potential arrests to actual experience under the current law, and to the DUIA statistics, is made in Table 2. The potential DUID arrests/chemical test figure was arrived at by assuming that no more drivers will be apprehended than are currently stopped, since the impaired-driving behavior that arouses an officer's suspicion will be the same whether he ultimately suspects DUIA or DUID. The percentage of all blood and breath tests currently done which result in BACs of less than 0.10% was found to be approximately 8%. Applying this percentage to the approximately 43,000 annual DUIA arrests experienced in 1984 leads to an estimated 3,500 to 4,000 DUID arrests per year. This assumes that all persons with BACs of less than 0.10% will be suspected of DUID, and that may not be true. Drug symptoms may not be apparent in all members of the low BAC group. Further, the number of DUID arrests estimated may be diminished if the training of police officers in detecting drug use symptoms is inadequate, if the arrest process is perceived as cumbersome, and if a low conviction rate makes DUID arrests appear ineffective. The experience of other states shows that many of the DUID suspects will be people who get low BACs on breath tests yet are still obviously impaired. Not all of those currently tested and producing low BACs are likely to meet this criterion.

On the other hand, the estimate may not be unrealistic for the very reason that a low BAC in an obviously impaired person usually is what arouses an officer's suspicion of DUID, according to the experience of other states. Most persons reaching the point of any sort of chemical testing have already exhibited an impairment that has led to their apprehension. Further, policemen may readily avail themselves of new procedures open to them, and some of the persons now being charged with reckless driving because of the current unavailability of chemical tests for drugs may instead be charged with DUID. This could make the number of arrests be higher than that estimated. Because balancing these countervailing considerations did not produce any accurate prediction, a range of 2,000 to 4,000 DUID arrests per year was forecast for the purposes of estimating a budget for implementing chemical testing (see Appendix B). Though the number of DUID arrests anticipated may be under 4,000 per year, it is not expected to be much higher.

The few Virginia-specific estimates of the frequency of DUID tend to fall in the range of 8% to 17% of all impaired drivers, a grouping which enhances their credibility. While not conclusive, when taken with data from studies in other states, these estimates support the conclusion that the DUID problem in Virginia is not illusory.

TABLE 2

DUIA VS. DUID, 1973-1984

<u>Year</u>	<u>DUIA</u>		<u>DUID</u>	
	<u>Arrests</u>	<u>Convictions</u>	<u>Estimated Arrests(a)</u>	<u>Convictions</u>
1973	22,590(b)	13,151	1807	7
1974	23,400(b)	13,495	1872	8
1975(c)	23,413	11,849	1873	3
1976	25,129	8,515	2010	4
1977	28,578	8,379	2286	10
1978	32,958	9,110	2637	14
1979	35,842	9,924	2867	13
1980	39,292	10,686	3143	18
1981	44,953	11,724	3596	20
1982(d)	49,742	24,089	3979	9
1983	44,919	40,507	3594	22
1984	42,907	37,957	3433	4

Source: DMV Driver Services

- (a) Estimated potential arrests, based on estimate that 8% of persons arrested for DUIA will be DUID suspects. See derivation in text and in Chapter V. No data on actual arrests for DUID available.
- (b) Estimated.
- (c) ASAP starts. Participation in ASAP avoids conviction of DUIA.
- (d) Statute changed; participation in ASAP no longer avoids DUIA conviction.

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CHAPTER III
DUID ENFORCEMENT: THE NATIONAL PERSPECTIVE

Introduction

This chapter presents an overview of the status of DUID enforcement throughout the United States. Because of the recent notoriety of the drunken driving problem, state legislatures have become increasingly aware of the dangers which impaired drivers pose to both themselves and other motorists. Consequently, many states have strengthened their DUID laws over the past few years. For example, only 12 states included drug testing as a part of their implied consent statutes in 1980, while in 1985, 31 states include such tests. Across the nation, efforts have been made to provide law enforcement officials with the means necessary to get the drug-impaired driver off the road. By analyzing the experiences of other states to determine what is necessary to successful DUID enforcement, the Commonwealth of Virginia can develop a program to detect and prosecute drug-impaired driving within its borders.

Methodology

The material contained in this chapter was compiled through literature reviews, a survey of state DUID laws, telephone interviews with law enforcement personnel in several states, and on-site evaluations of DUID enforcement in two states. Initially, recent studies on the relationships between drugs, driving, and the law were reviewed.* Subsequently, a survey of the DUID laws of all 50 states was conducted. With the results of this survey, states with particularly strong DUID laws were identified and law enforcement officials in those states were contacted. Finally, several members of the HJR 10 Steering Committee travelled to Los Angeles, California, and Fort Lauderdale, Florida, to meet with police, prosecutors, and laboratory personnel and to observe the DUID enforcement process.

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Overview

All 50 state DUID laws are patterned after DUIA laws. The DUID offense is usually included in the "impaired driving" statute, which makes it a crime to operate or be in physical control of a vehicle while under the influence of alcohol or other drugs. Every state has an "implied consent" law which facilitates chemical testing to determine blood-alcohol content. In 31 states, chemical testing to determine the presence of other drugs is also included in the implied consent statute. Refusal to submit to a chemical test usually results in a license suspension and does not preclude prosecution under the impaired driving offense.

DUID enforcement generally occurs as an offshoot of DUIA enforcement. Drug-impaired drivers are often detected as a result of involvement in an accident, commission of a traffic violation, or some other unusual driving behavior. If the investigating officer suspects impairment, his first course of action is to determine if the driver has been drinking. A series of coordination tests known as "field sobriety tests" often are administered, and a driver may be requested to submit to a "preliminary breath test" (PBT) to determine the alcoholic content of his blood. If there is probable cause to believe that the driver is under the influence of alcohol, he will be arrested for DUIA. However, the officer may be alerted to the possible involvement of drugs when an obviously impaired driver satisfactorily completes a field sobriety test, tests below the legal limit on either a PBT or evidentiary breath test, or displays some other observable sign of drug use or impairment. In those states which include drug testing as a part of the implied consent statute, the driver may be arrested for DUID and a blood or urine test for drug content may be administered. Where statutory constraints against drug testing, multiple tests, or police officer designation of the type of specimen prevent police from obtaining chemical evidence of drug ingestion, there may not be enough evidence to support a DUID charge.

When DUID cases come to trial, those states which permit the introduction of drug test results into evidence rely heavily upon the tests to support allegations of drug impairment. Expert witnesses are often used to introduce the tests into evidence, establish their validity, and interpret the results. In some states, experts evaluate a person suspected of DUID immediately following his arrest and testify in court on any physiological manifestations of drug-impairment. Those states with the most effective DUID programs generally combine testimony on the observable signs of impairment with chemical evidence from drug tests so as to correlate drug usage to the behavior observed at the time of arrest. Where test results are not admissible into evidence and experts are not used to evaluate drivers, DUID convictions are seldom obtained.

Comparison of the Uniform Vehicle Code and State Laws

The Uniform Vehicle Code

Much of the statutory reform over the past five years has been aimed at bringing state DUID laws into compliance with the provisions of the Uniform Vehicle Code (U.V.C.). The U.V.C. is published by the National Committee on Uniform Traffic Law Ordinances and is intended to provide decision-making bodies with model traffic laws. Its provisions are not binding upon any jurisdiction. Included in the U.V.C. are statutes that prohibit drug-impaired driving and provide for chemical testing for drugs. These provisions are structured to provide police and prosecutors with the necessary resources to combat the DUID problem. The relevant portions of the U.V.C. and the rationale for each provision are discussed below.

The Impaired Driving Offense

§11-902(a) "A person shall not drive or be in actual physical control of any vehicle while:

(3) Under the influence of any other drug or combination of drugs to a degree which renders him incapable of safely driving; or

(4) Under the combined influence of alcohol and any other drug or drugs to a degree which renders him incapable of safely driving.

(b) The fact that any person charged with violating this section is or has been legally entitled to use alcohol or other drug [sic] shall not constitute a defense against any charge of violating this section."

Rationale: The section quoted above contains three provisions essential to DUID enforcement: (1) an explicit reference to impairment as the gravamen of the offense, (2) an alcohol-drug and multiple drug combination offense, and (3) a comprehensive scope that includes any drug, licit or illicit, which impairs driving. By defining the offense as being under the influence of a substance "to a degree which renders [one] incapable of safely driving," the elements of the DUID offense are explicitly established. Unlike states which ambiguously define the offense merely as being "under the influence" of drugs, the U.V.C. specifically mentions the type of behavior that is proscribed.

The use of the language "any drug" in the U.V.C. is intended to give the statute a broad scope by including within the offense any

substance which can impair one's ability to safely operate a vehicle. Prior to the adoption of the "any drug" language, the U.V.C. only prohibited driving while under the influence of a narcotic drug, and some states still limit the offense to controlled substances, nonprescription drugs, or other substances specifically enumerated in the statute. The problem with such a restricted definition is that a person who drives after consuming an uncontrolled or prescription drug might not be in violation of the law, even though he is unable to drive safely. Through the use of the "any drug" language, the U.V.C. addresses the hazards posed by drug-impairment and not just the source of the impairment.

The combination offenses set forth in §§11-902(a) (3) and (4) are a response to the aforementioned hazards posed by those drivers who operate vehicles after mixing alcohol and other drugs or ingesting a combination of drugs other than alcohol. In some alcohol-drug combination cases, the combined effect of alcohol and drugs together is sufficient to cause impairment, though the isolated effects of either substance are not severe enough to interfere significantly with driving skills. In those states which do not specifically proscribe driving under the influence of a combination of alcohol and other drugs, law enforcement personnel faced with a combined influence case can only pursue either a straight DUID or DUIA conviction. However, because neither the effects of the alcohol or the other drug alone may be sufficient to cause impairment, it may not be possible to prove either offense. A similar problem may occur in the case of a person who has been driving under the combined influence of drugs and no one drug alone has impaired his driving.

The Implied Consent Statute

§6-205.1 "Any person who operates a motor vehicle upon the highways of this State shall be deemed to have given consent, subject to the provisions of §11-902.1, to a test or tests of his blood, breath, or urine for the purpose of determining his alcohol concentration or the presence of other drugs.... The law enforcement agency by which such officer is employed shall designate which of the aforesaid tests shall be administered."

Rationale: The key provisions of §6-205.1 with respect to DUID enforcement are (1) the inclusion of a drug test in the implied consent law, (2) the inclusion of blood and urine as substances which may be analyzed, (3) the explicit authorization of multiple tests, and (4) designation of the type of test by the law enforcement agency. Because of the evidentiary value of test results, drug testing is the

most crucial element of a DUID enforcement program. In the absence of chemical evidence of drug concentration, police and prosecutors must rely on evidence such as erratic driving behavior and inability to pass field sobriety tests. Such evidence is generally considered to be weaker than positive test results and is usually insufficient to support a conviction.

To facilitate the effective use of drug testing, the U.V.C. includes three additional provisions. Since blood and, to some extent, urine are the only bodily fluids that yield reliable evidence of drug concentration, police must be given the authority to obtain these samples under the implied consent statute. Along the same lines, police need to be able to designate blood or urine as the specimen of analysis. If the choice of tests is made by the driver, a DUID suspect could choose breath and effectively defeat any effort to test for substances other than alcohol. Finally, the use of the language "test or tests" makes it clear that a person may be required to provide a blood or urine sample for the purpose of drug detection after he has submitted to a blood-alcohol test. Such a provision is needed because a police officer often does not suspect DUID until an obviously impaired driver "passes" a breath test.

Admissibility of a Refusal

§11-902.1 (c) "If a person under arrest refuses to submit to a chemical test under the provisions of §6-205.1, evidence of refusal shall be admissible in any civil or criminal action or proceeding arising out of acts alleged to have been committed while the person was driving or in actual physical control of a motor vehicle while under the influence of alcohol or other drugs."

Rationale: By making a refusal to submit to a chemical test admissible, the U.V.C. enhances the likelihood that an impaired driver will be convicted of DUIA or DUID without test results. As a result, states which follow the U.V.C. model are better able to identify habitual DUI offenders and thereby respond with appropriate sanctions, rehabilitation, or both.

Comparison of State Laws

The DUID laws of the 50 states vary greatly in their structure, language, and scope. Those states with the strongest laws generally parallel the U.V.C. model in both their impaired driving and implied consent statutes. Other states may incorporate portions of the U.V.C.,

such as the definition of the offense or the "test or tests" language, but take a much different approach to other parts of the law. Table 3 summarizes the key provisions of state DUID laws and compares them to the structure of the U.V.C. Figures 2, 3, 4, and 5 are maps of the United States which compare the relative provisions of state DUID laws. Appendix C is a compilation of the 50 state definitions of the DUID offense.

TABLE 3
Comparative DUID Laws

	<u>COMBO OFFENSE</u>	<u>ANY DRUG</u>	<u>DRUG TEST</u>	<u>TYPES OF TESTS</u>	<u>OFFICER CHOOSES</u>	<u>MULTPL TESTS</u>	<u>REFUSAL ADMSBLE</u>
ALABAMA	Y	Y	N	BL, BR, UR	Y	Y	Y
ALASKA	Y	(a)	N	BR	N	Y	Y
ARIZONA	N	Y	N	BL, BR, UR	Y	Y	(*)
ARKANSAS	Y	(a)	Y	BL, BR, UR	Y	Y	(*)
CALIFORNIA	Y	Y	Y	BL, BR, UR	(b)	Y	Y
COLORADO	N	Y	Y	BL, SAL, UR	Y	N	Y
CONNECTICUT	Y	Y	Y	BL, BR, UR	Y	N	Y
DELAWARE	Y	Y	Y	BL, BR, UR	Y	Y	Y
FLORIDA	N	(c)	Y	UR	Y	Y	Y
GEORGIA	Y	Y	Y	BL, BR, UR, OBS	Y	Y	Y
HAWAII	N	Y	N	BL, BR	Y	Y	N
IDAHO	Y	Y	Y	BL, BR, UR, OBS	Y	N	(*)
ILLINOIS	Y	Y	Y	BL, BR, UR	Y	Y	Y
INDIANA	Y	Y	Y	BL, BR, UR	Y	Y	Y
IOWA	Y	(d)	Y	BL, BR, UR, SAL	Y	Y	Y
KANSAS	N	Y	N	BL, BR	Y	N	Y
KENTUCKY	N	Y	N	BL, BR, UR, SAL	Y	N	Y
LOUISIANA	N	(c)	N	BL, BR, UR, OBS	Y	Y	Y
MAINE	Y	Y	N	BL, BR	N	N	Y
MARYLAND	Y	Y	N	BL, BR	N	N	(*)
MASSACHUSETTS	N	(c)	N	BL, BR	Y	N	N
MICHIGAN	Y	(a)	Y	BL, BR, UR	Y	Y	(e)
MINNESOTA	Y	(a)	Y	BL, BR, UR	Y	Y	Y
MISSISSIPPI	N	Y	(f)	BL, UR	N	Y	Y
MISSOURI	Y	Y	Y	BL, BR, UR, SAL	Y	Y	(*)
MONTANA	Y	Y	N	BL, BR, UR	Y	N	Y
NEBRASKA	N	Y	N	BL, BR, UR	Y	N	(*)
NEVADA	Y	Y	Y	BL, BR, UR, OBS	Y	Y	Y
NEW HAMPSHIRE	Y	(a)	Y	BL, BR, UR	Y	Y	Y
NEW JERSEY	N	(c)	N	BR	N	Y	Y
NEW MEXICO	N	Y	N	BL, BR	N	Y	(*)
NEW YORK	N	Y	Y	BL, BR, UR, SAL	Y	N	Y
NORTH CAROLINA	N	Y	Y	CHEM ANAL	Y	Y	Y
NORTH DAKOTA	Y	(g)	Y	BL, BR, UR, SAL	Y	Y	Y
OHIO	Y	(h)	Y	BL, BR, UR	Y	Y	(*)
OKLAHOMA	Y	Y	Y	BL, UR, SAL	Y	Y	Y
OREGON	Y	(a)	Y	BL, UR	Y	Y	Y
PENNSYLVANIA	Y	(c)	Y	BL, BR, UR	(*)	Y	Y
RHODE ISLAND	Y	Y	Y	BL, BR, UR	Y	Y	(*)
SOUTH CAROLINA	N	Y	N	BR	N	N	N

Table 3 (continued)

	<u>COMBO OFFENSE</u>	<u>ANY DRUG</u>	<u>DRUG TEST</u>	<u>TYPES OF TESTS</u>	<u>OFFICER CHOOSES</u>	<u>MULTPL TESTS</u>	<u>REFUSAL ADMSBLE</u>
SOUTH DAKOTA	Y	(a)	Y	BL, BR, OBS	Y	Y	Y
TENNESSEE	N	(c)	Y	BL, BR, UR	Y	N	(*)
TEXAS	Y	(a)	Y	BL, BR	Y	Y	Y
UTAH	Y	Y	Y	BL, BR, UR	Y	Y	Y
VERMONT	Y	Y	Y	BL, BR	Y	Y	Y
VIRGINIA	N	Y	N	BL, BR	N	N	N
WASHINGTON	Y	Y	N	BL, BR	Y	Y	Y
WEST VIRGINIA	Y	Y	N	BL, BR, UR	Y	Y	N
WISCONSIN	Y	Y	Y	BL, BR, UR	Y	Y	Y
WYOMING	Y	(a)	Y	BL, BR, UR	Y	Y	(*)
U.V.C.	Y	Y	Y	BL, BR, UR	Y	Y	Y
TOTALS	33	32	31		41	35	34

(*) indicates that statute is unclear on this point

(a) indicates controlled substances

(b) indicates officer can require driver to choose either blood or urine

(c) indicates substances enumerated in DUID offense

(d) indicates only nonprescription drugs

(e) indicates "yes" but not evidence of guilt

(f) indicates drug test is voluntary

(g) indicates narcotics and controlled substances

(h) indicates drugs of abuse

OTHER ABBREVIATIONS

Y = Yes

BR = Breath

UR = Urine

N = No

BL = Blood

SAL = Saliva

OBS = Other Bodily Substances

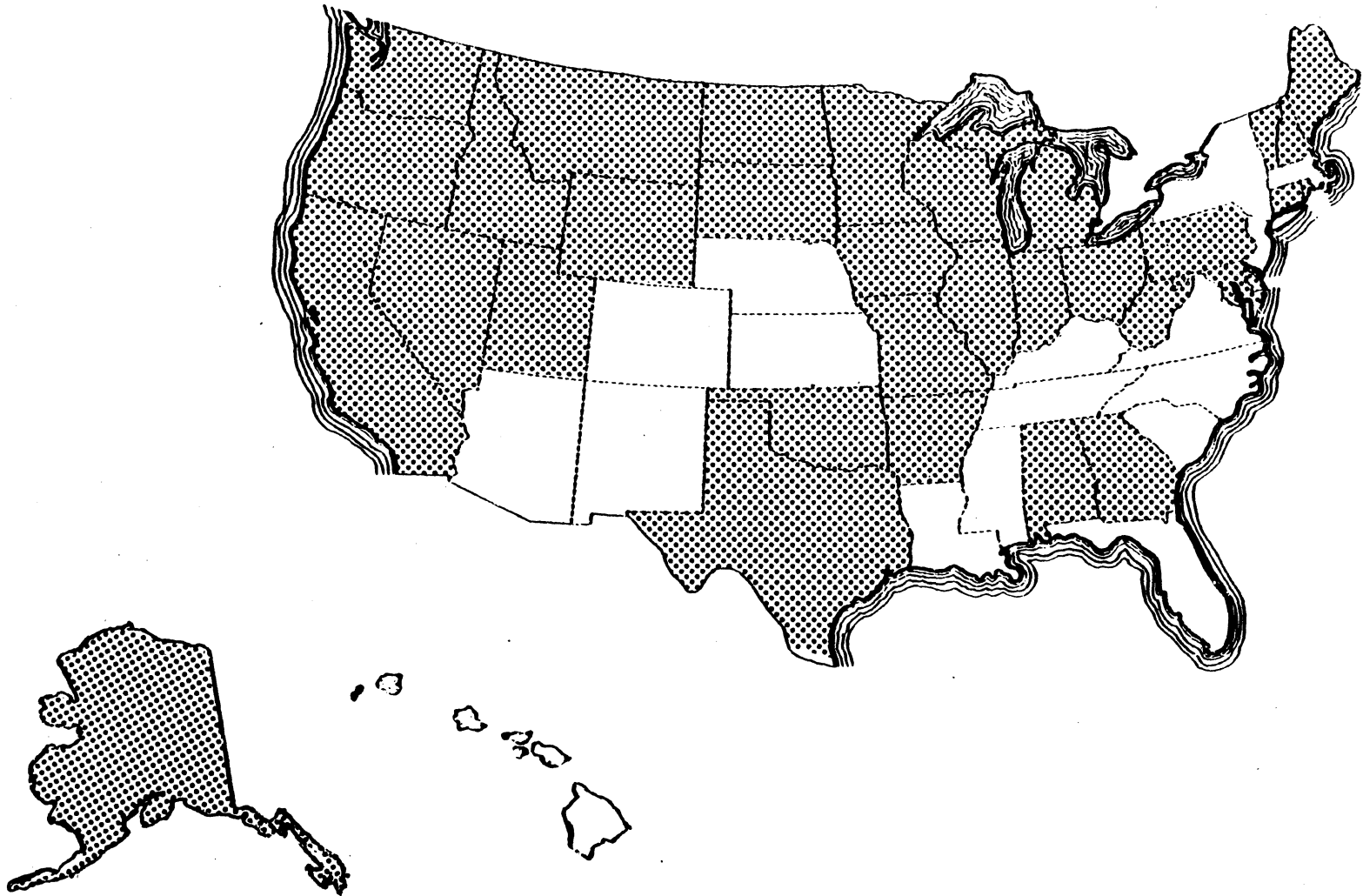


Figure 2. States with drug/alcohol combination offenses, shaded.

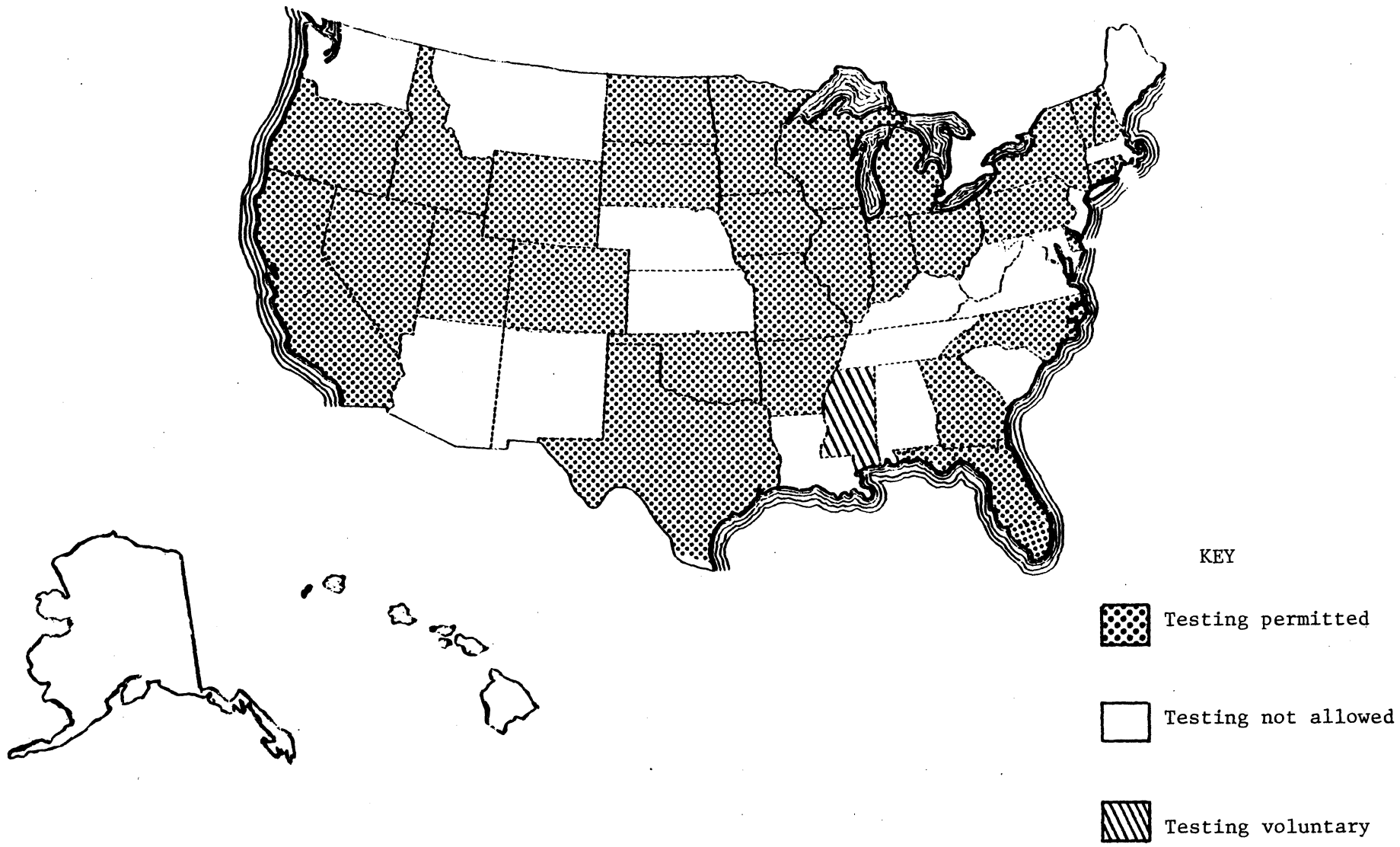


Figure 3. Status of chemical testing for drugs by states.

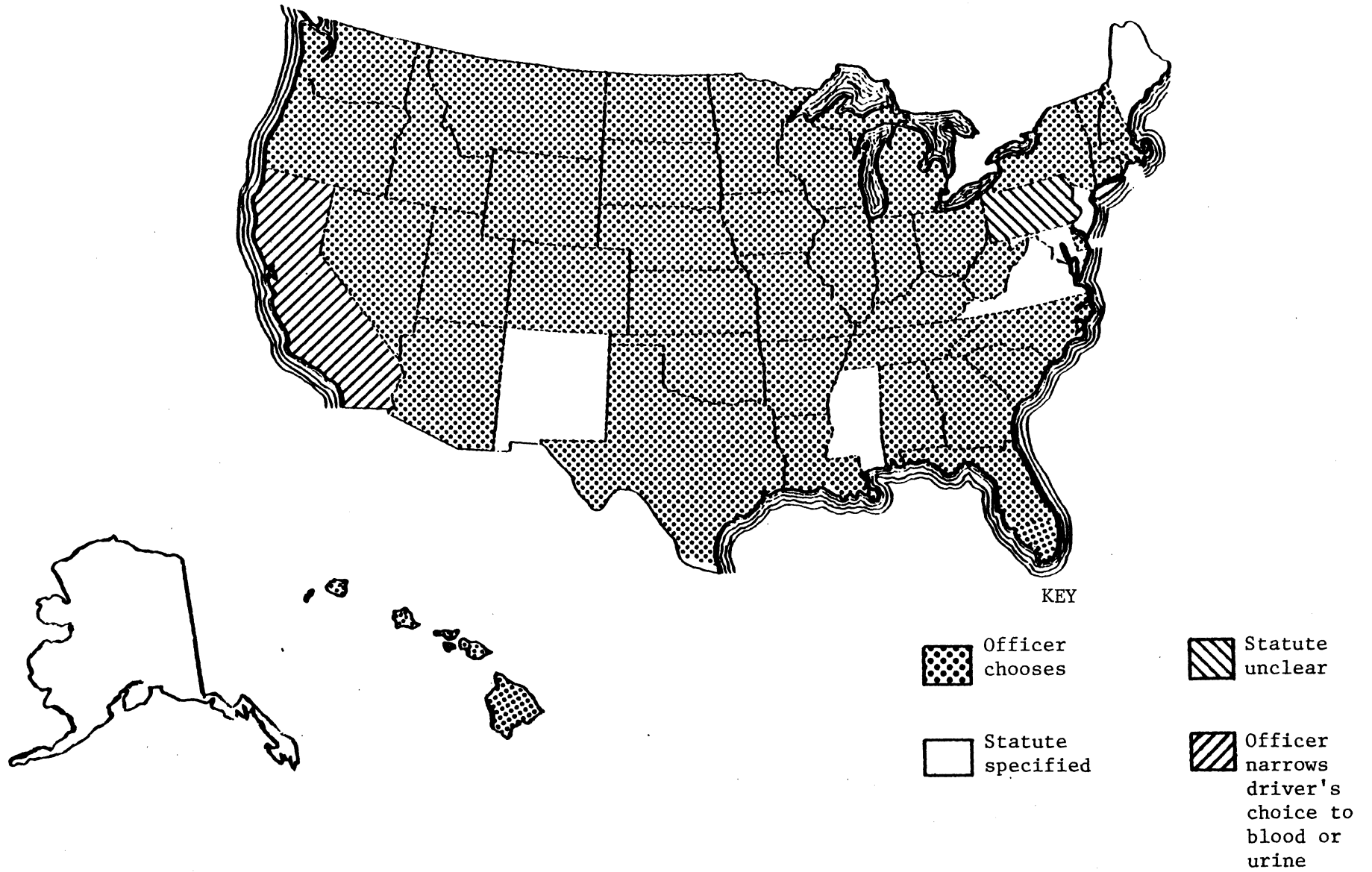


Figure 4. Officer discretion as to type of test.

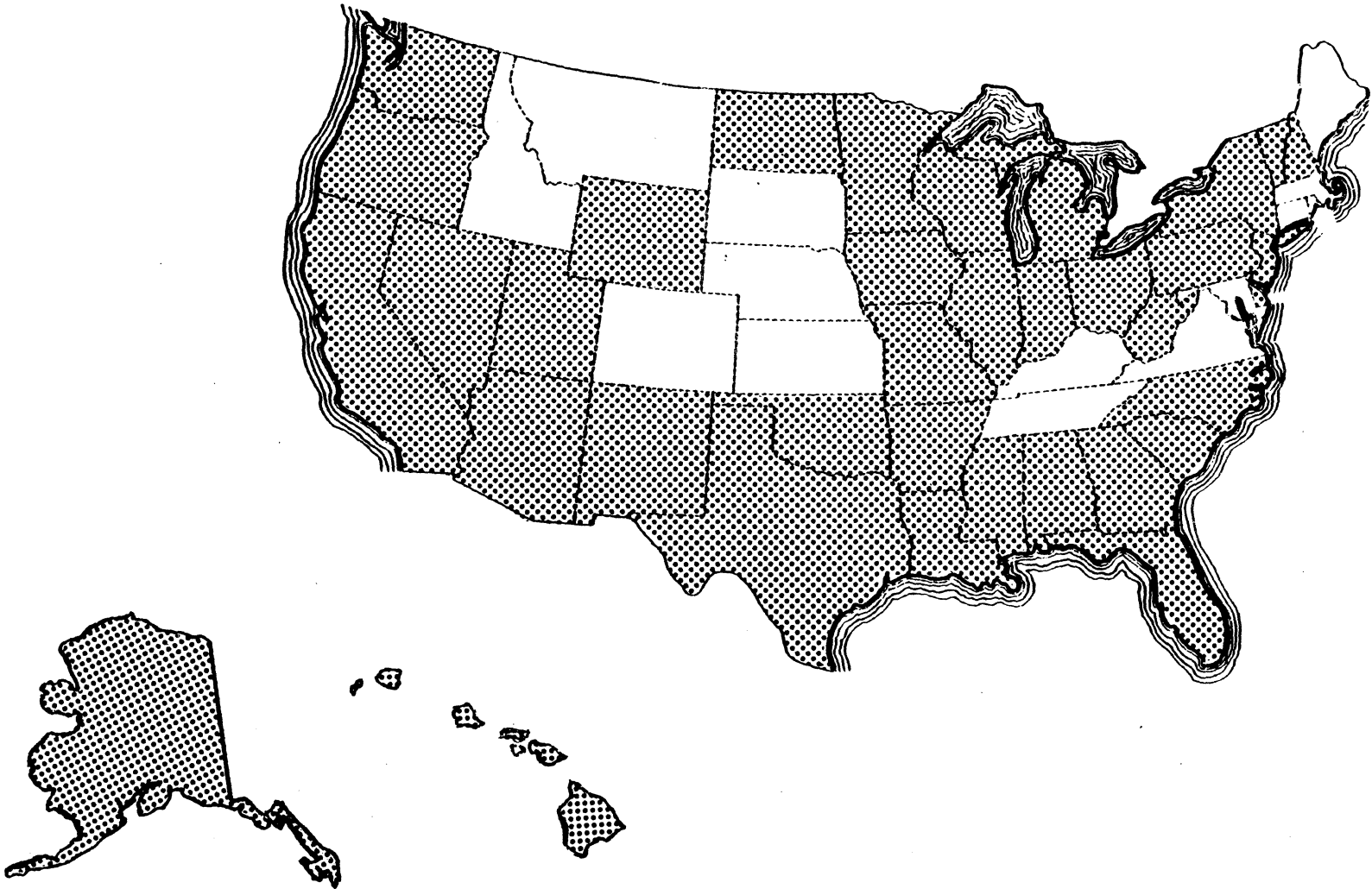


Figure 5. States that permit multiple chemical tests, shaded.

The DUID Offense

Sixteen states use the exact wording of the U.V.C. and define the DUID offense as being "under the influence ... to a degree which renders [a person] incapable of safely driving." Eight other states do not use the exact language of the U.V.C., but parallel its approach by explicitly including impairment of driving ability as a part of the DUID offense. Thirty-two states include any drug within the scope of the offense, and 33 states include a combination offense. Several statutes are shown below.

ARKANSAS: §75-2503(a) of the Arkansas Statutes Annotated makes it unlawful for any person who is "intoxicated" to operate or be in actual physical control of a motor vehicle. §75-2502(a) defines "intoxicated" as "influenced or affected by the ingestion of alcohol, a controlled substance, or a combination thereof, to such a degree that the driver's reactions, motor skills, and judgement are substantially altered and the driver, therefore, constitutes a clear and substantial danger of physical injury or death to himself and other motorists or pedestrians."

NEW YORK: §1192(4) of the Vehicle and Traffic Laws provides that "[n]o person shall operate a motor vehicle while his ability to operate such a motor vehicle is impaired by the use of a drug."

TEXAS: Art. 6701(1)-1(b) of the Texas Code Annotated makes it an offense to drive while intoxicated, and Art. 6701(1)-1(b) defines intoxicated as "not having the normal use of mental and physical faculties by reason of the introduction of alcohol, a controlled substance, a drug, or combination of two or more of these substances into the body."

MISSISSIPPI: §63-11-30(1)(b) of the Mississippi Code Annotated makes it unlawful to operate a vehicle while "under the influence of a substance which has impaired such person's ability to operate a motor vehicle."

KENTUCKY: §189.520(1) of the Kentucky Revised Statutes Annotated makes it an offense for any "person under the influence of intoxicating beverages or any substance which may impair one's driving ability [to] operate a vehicle ...".

The reason these statutes are singled out for mention here is that like the U.V.C., they clearly identify impairment of driving skills as the central element of the DUID offense. As has been discussed, the

purpose of DUID legislation is to improve highway safety by deterring a dangerous activity and removing a potentially hazardous class of drivers from the road. Those statutes which specifically include driver impairment as an element of the offense provide police and prosecutors with the means to pursue that goal.

The Implied Consent Statute

Thirty-one states follow the U.V.C. and include the analysis of bodily fluids for the presence of drugs as a part of their implied consent statutes. Forty-one states allow a police officer to choose the type of test administered, and 35 states explicitly authorize the administration of more than one test. Thirty-four states make the refusal to submit to a chemical test admissible in a DUI trial. The structure and application of the implied consent statutes of several states are discussed below.

GEORGIA: §40-5-55 of the Official Code of Georgia Annotated permits the state to obtain blood, breath, urine, or "other bodily substances" from a DUID suspect for drug analysis. A police officer is given the authority to choose the type of test administered, and multiple testing is provided for by statute. Refusal to consent to a chemical test is admissible in a DUI trial.

According to Georgia prosecutors, DUID convictions are obtained on the basis of positive test results supplemented by police testimony on the defendant's driving behavior and other observable evidence of drug impairment. In some cases, persons are convicted without test results, but only when the person's refusal to submit to testing is admitted into evidence.

The key to a DUID prosecution in Georgia is the use of chemical tests. The credibility of blood tests has been widely established in Georgia courts and they are rarely challenged by defense attorneys. Urine tests are more likely to be excluded from evidence, though they have been admitted in many cases. Georgia prosecutors report that in many instances the mere existence of positive test results persuades a DUID suspect to plead guilty.

DELAWARE: Title 21, §§2740 - 2741 of the Delaware Code require a motorist suspected of DUID to provide a sample of his blood, breath, or urine for drug or alcohol analysis. One of the more interesting features of Delaware's implied consent statute is its explicit authorization of drug testing in the situation where an apparently intoxicated driver "passes" a breath test. §2741(b) provides that "[i]f there are reasonable grounds to believe that there is impairment by a drug or drugs which are not readily subject to detection by a breath

test, a blood and/or urine test may be required even after a breath test has been administered." The refusal to consent to a test is admissible in court.

Delaware prosecutors cited positive drug test results coupled with the testimony of a member of the Medical Examiner's staff as the key to a DUID conviction. The M.E.'s office has identified therapeutic levels of drug concentrations in blood and urine, and its testimony focuses on two issues: (1) whether the results of tests show a concentration greater than the therapeutic level, and (2) the effects that a given concentration of a drug in blood or urine is known to have on an individual. The M.E.'s testimony on quantitative drug content is said to be more valuable than police officer observations.

MICHIGAN: §257-625 (c)(1) of the Michigan Code authorizes police to obtain breath, blood, or urine samples from DUI suspects for the purpose of detecting a controlled substance. Multiple testing is explicitly provided for in the statute, and the arresting officer chooses the type of test. A refusal is admissible in a DUI trial, though the jury must be instructed that the refusal is not evidence of guilt.

Michigan's experience with drug testing has been more problematic than those of Georgia and Delaware. Blood samples are preferred by police because of the distasteful process of urine collection. However, the hospitals which perform the blood tests are reluctant to supply technicians to testify on the validity and significance of test results. Consequently, test results are used in relatively few DUID cases. Michigan prosecutors report that without test results, the chances of a DUID conviction are greatly diminished.

Case Studies: Los Angeles and Ft. Lauderdale

In an effort to gain a full understanding of what will be necessary to strengthen DUID enforcement in Virginia and thereby improve the safety of the Commonwealth's highways, several members of the HJR 10 Steering Committee travelled to Los Angeles and Ft. Lauderdale to observe the DUID enforcement process. These two cities were chosen for the on-site evaluations because their DUID programs were reported to be among the best in the nation. The results of these visits are discussed here.

Los Angeles

According to the National Highway Traffic Safety Administration (NHTSA), the Los Angeles metropolitan area has the most effective DUID

enforcement program in the United States. The reasons for their success are twofold: (1) a legal framework which provides police and prosecutors with the necessary tools to get the drug-impaired driver off the road, and (2) a well-trained group of police officers known as Drug Recognition Experts (DREs) skilled in the detection and evaluation of drug-impaired drivers and qualified to testify as experts in court.

California Law

Section 23152 of the California Vehicle Code makes it unlawful for any person "under the influence" of an alcoholic beverage or any drug, or under the combined influence of an alcoholic beverage and any drug, to drive a vehicle. "Under the influence" is defined by California case law to mean that a substance "so far affects the nervous system, the brain or muscles as to impair to an appreciable degree the ability to operate a vehicle in a manner like that of an ordinarily prudent and cautious person in full possession of his faculties, using care and under like conditions." People v. De La Torre, 263 Cal. App. 2d 409, 69 Cal Rptr. 654 (1968). Section 13353, the implied consent statute, permits police to conduct a blood, breath, or urine test to determine alcohol or drug content. Section 13353(2)(B) provides that a person who elects to submit to a breath test may also be required to submit to a blood or urine test (the driver decides which) "if the officer has reasonable cause to believe that the person was driving under the influence of any drug or the combined influence of alcoholic beverages and any drug." The officer must state the facts which give rise to his suspicion of drug impairment in the arrest report. Refusal to submit to a chemical test or tests may be used against a person at trial.

California police have been able to request a blood or urine test for determining drug content since the mid-1970s. Despite this authority, Los Angeles police found that the inability of officers to accurately identify the medical symptomology of drug impairment severely limited their ability to prosecute DUID offenders. California courts would not allow a police officer's nonexpert opinion on impairment to be introduced into evidence, thereby making it difficult for prosecutors to correlate positive blood or urine test results to the observed behavior. In the rare case where a person was convicted of DUID, a medical doctor evaluated the driver immediately after his arrest and then testified at trial. Because of the time-consuming nature of court appearances, most doctors were reluctant to become involved in DUID cases. As a result, few DUID cases were filed and those that were rarely resulted in convictions.

The DRE Program

Responding to a perceived need to reduce the incidence of drug-impaired driving, the Los Angeles Police Department (LAPD) created the DRE program to train a select group of officers to identify drug-impaired persons and the pharmacological drug class producing the impairment. The primary duties of the DRE involve the evaluation of suspected drug-impaired drivers either before or after their arrest. When a DRE contacts a suspected DUID offender on the road, the officer subjects him to a drug-specific version of the field sobriety test. In many instances, DUID offenders are not clearly identified until after they have been arrested, brought to the police station, and given a breath test. Should the results of the breath test show a BAC inconsistent with the person's apparent level of impairment, a DRE will be asked to evaluate the person for evidence of drug-impairment.

The DRE's evaluation begins with an interview of the arrestee and is followed by a five-step series of physical coordination and divided attention impairment tests. The first test is for the presence or acuteness of Gaze Nystagmus, an involuntary, rapid movement of the eyeball which occurs when an individual looks to the extreme right or left, up or down. Given the proper training, an officer can predict the BAC of an arrestee within 0.02% using this test. The test can also be used to identify the presence of certain pharmacological classes of drugs as the suspect follows a slowly moving object with his eyes and the DRE notes the jerking motion referred to as nystagmus.

The second test, called the Rhomberg Test, measures the degree to which a suspect's sense of balance and time are impaired. The suspect stands with his feet together, arms down, head back, and eyes closed for 30 seconds by his own count while the DRE notes the swaying motion of his body and times him.

The third test is a variation on the "one-leg stand test" familiar to most DUI enforcement officers. The suspect is told to raise one foot, look at it, and count to 30 at one-second intervals. The test is repeated with the other foot while the DRE evaluates the person's ability to follow directions and complete the test without putting his foot down.

The fourth test is the "finger-to-nose" test. The suspect starts the test with his arms down at his side, reaches straight up to touch his nose with his index finger, and then returns his hands to his side. The DRE observes and evaluates his coordination and ability to follow directions.

The fifth test is the "walk-the-line" test widely used in DUI enforcement. However, the version used here is different in that the suspect is required to stand heel-to-toe on the line while the DRE explains the test to him. Then the suspect walks a minimum of nine

steps, heel-to-toe, and returns while counting out loud. This test, along with the "one-leg-stand", determines the suspect's divided-attention impairment, an important factor in a person's ability to operate a vehicle while at the same time observing and reacting to the surrounding environment.

Once these five tests are completed, the DRE examines the suspect's eyes to determine their responsiveness to changes in lighting. Finally, the DRE takes the person's blood pressure and pulse and then requests a sample of blood or urine for laboratory analysis. The DRE then reviews his notes and renders an opinion as to whether or not the person is under the influence of drugs and , if so, the type of drugs ingested. The results of the evaluations and the opinions of the DRE are included in a report prepared for use in court. A copy of the drug influence evaluation form used by the LAPD is shown in Figure 6.

Should the case come to trial, the DRE testifies on the results of his evaluation. Because California law defines "under the influence" of drugs to mean drug-induced impairment of driving ability, his testimony focuses on the outward manifestations of psychomotor impairment which would indicate diminished driving skills at the time of arrest. Additionally, the DRE testifies on the pharmacological class of drugs which he believes is responsible for the impairment. Finally, the results of the blood or urine tests are introduced into evidence to corroborate the DRE's testimony. The end result is that the prosecution is able to correlate chemical evidence of drug usage to observed impairment at the time of arrest, thereby proving the elements of the DUID offense.

Law enforcement officials in Los Angeles identify the drug test results and DRE testimony as equally important to a DUID conviction. Thus, when positive test results are not available, the DUID charge may be dropped or reduced to a lesser offense. However, because California law permits the refusal to submit to a blood or urine test to be used against the driver in court, prosecutors may obtain a conviction on the basis of DRE testimony and the admission of the refusal.

Since the DRE program became operational in the late 1970s, the city of Los Angeles has had tremendous success in convicting the drug impaired driver. Whereas the pre-DRE filing rate was approximately 40%, the current filing rate is 97%. Although this number is impressive by itself, the effectiveness of the DRE program is made most apparent by the fact that few of these cases go to court. According to L.A. city attorneys, the existence of a DRE report and positive blood or urine test results almost always produces a guilty plea or a conviction.

DRUG INFLUENCE EVALUATION

DR _____

Page ____ of ____

ARRESTEE'S NAME (LAST, FIRST, MI)		BOOKING NO.	LOCATION OF ARREST
DATE EXAMINED	TIME	LOCATION	ARRESTING OFFICER(S) NAME, DIVISION, UNIT NO.

DUI DRUG ADMONITION (To be given after breath test if arrestee is suspected of driving under the influence of drugs, or the combined influence of alcohol and drugs):

- The breath test you have just taken is designed to detect only the alcoholic content of your blood.
- Because I believe you are under the influence of drugs or a combination of drugs and alcohol, you are required by state law to submit to a blood or urine test to determine the drug content of your blood.
- If you refuse to submit to a test, or fail to complete a test, your driving privilege WILL BE SUSPENDED FOR SIX MONTHS, OR FOR ONE YEAR if you have been convicted within the last five years of driving under the influence of alcohol or drugs, or any combination of these, including such a charge reduced to reckless driving.
- You do not have the right to talk to an attorney or to have an attorney present before stating whether you will submit to a test, before deciding which test to take, or during the administration of the test.
- If you are incapable of, or state you are incapable of, completing the test you choose, you must submit to & complete a remaining test.
- Your refusal to submit to a chemical test will be commented on in a court and a jury will be instructed that your refusal may show consciousness of guilt on your part.

Will you take a blood or urine test now? Response: _____ ADMONITION GIVEN BY _____ SERIAL NO. _____

GIVEN IN SPANISH

CHEMICAL TESTS:	<input type="checkbox"/> BREATH ..	INSTRUMENT NO.	GCI READINGS	<input type="checkbox"/> URINE	<input type="checkbox"/> BLOOD	<input type="checkbox"/> ALL TESTS REFUSED
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MIRANDA ADMONITION GIVEN BY	DO YOU UNDERSTAND EACH OF THE RIGHTS I HAVE EXPLAINED TO YOU?	DO YOU WISH TO GIVE UP THE RIGHT TO REMAIN SILENT?	DO YOU WISH TO GIVE UP THE RIGHT TO SPEAK TO AN ATTORNEY AND HAVE THE ATTORNEY PRESENT DURING QUESTIONING?
<input type="checkbox"/> GIVEN IN SPANISH			

WHAT HAVE YOU EATEN TODAY?WHEN?	WHAT HAVE YOU SEEN DRINKING?.... HOW MUCH?	TIME OF LAST DRINK?	TIME NOW	WHEN DID YOU LAST SLEEP?	HOW LONG?
ARE YOU SICK OR INJURED? Y N	ARE YOU EPILEPTIC OR DIABETIC? Y N	ARE YOU UNDER THE CARE OF A DOCTOR OR DENTIST? Y N			
DO YOU TAKE INSULIN? Y N	DO YOU HAVE ANY PHYSICAL DEFECTS? Y N	ARE YOU TAKING ANY MEDICINE OR DRUGS? Y N			
WHAT MEDICINE OR DRUG HAVE YOU BEEN USING?...HOW MUCH?			TIME OF USE	WHERE WERE DRUGS USED? (INCLUDE ADDRESS WHEN POSSIBLE)	

NYSTAGMUS:	<input type="checkbox"/> HORIZONTAL	<input type="checkbox"/> VERTICAL	PULSE	BALANCE EYES CLOSED	BALANCE	<input type="radio"/> RIGHT FOOT	<input type="radio"/> LEFT FOOT	RIGHT INDEX	LEFT INDEX
STRABISMUS:			BLOOD PRESSURE			TYPE SHOES			
ATTITUDE	EYES		LINE TEST						
BREATH	FACE		<input type="radio"/> RIGHT FOOT <input type="radio"/> LEFT FOOT						
COORDINATION	SPEECH		TURN						
PUPILS:	DARKNESS	INDIRECT	DIRECT	ROOM	REACTION		WEARING GLASSES? Y N		
MM	MM	MM	MM	MM			WEARING CONTACTS? Y N		
							EYE PROBLEMS? Y N		

1) DESCRIPTION OF EXAMINATION: INCLUDE ARRESTEE'S STATEMENTS, PHYSICAL AND MENTAL SIGNS OF DRUG USE. 2) EXAMINING OFFICER'S NARRATIVE & OPINION.

EXAMINING OFFICER	SERIAL NO.	DIVISION	UNAVAILABLE DATES
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CONTINUE ON REVERSE

Figure 6. Drug influence evaluation form used by the Los Angeles Police Department.

Problems With the DRE Program

The primary problems encountered in the DRE program have come in management and support. Because of the necessity for DREs to qualify as experts for court purposes, prospective officers are required to undergo 40 hours of intensive classroom training and at least 40 additional weekend hours of applied training conducting evaluations of DUID arrestees. As a result, DRE recruits are pulled away from their regular assignments, and this decreases their overall productivity and often creates problems with supervisors whose priorities do not lie with the DRE program. Additionally, the heavy overtime hours required of DREs demand that prospective officers have a strong commitment (or a compelling need for additional income). Finally, the great variety of drugs available and the constant changes in supply and popularity dictate that DREs keep active and in touch with changes in street drug usage patterns.

Given the demands of the DRE program, its success depends on strong support from both participants and other departments impacted by the program. Additionally, effective management is necessary to maintain the program and assure that officers will adhere to the standards necessary for qualification as an expert. Neither support nor management has been a significant problem in Los Angeles, where a few highly motivated individuals have exercised virtually complete control over the selection of recruits and the administration of the program. In contrast, the statewide California Highway Patrol's DRE program has been burdened with administrative difficulties and has been hard-pressed to match L.A.'s success. The Highway Patrol's DRE coordinator, who is based in Los Angeles, has encountered problems in monitoring the performance of DREs spread throughout the state. DREs in rural areas do not have a large enough volume or variety of drug-impaired drivers to keep their evaluation skills honed and thereby qualify as experts. Support for the program varies from one jurisdiction to another, with the degree of support usually being a function of the number of officers willing to participate and the perceived magnitude of the DUID problem.

Conclusion

The committee members who travelled to Los Angeles agreed that that city had developed a highly effective program to deal with the problem of drug-impaired driving. The success of DUID enforcement in Los Angeles can be attributed to two factors: (1) a legal structure which defines the offense as impairment of driving ability and permits drug-testing in addition to blood-alcohol tests, and (2) a well-managed group of highly trained and motivated DREs who are capable of not only identifying drug impairment but also of serving as experts at trial. Through this combination of a strong legal structure and specialized

enforcement, Los Angeles appears to have greatly enhanced its ability to combat the drug-impaired driver.

Ft. Lauderdale

In the early 1980s, the state of Florida launched a comprehensive program to detect and prosecute impaired drivers on its highways. The legislation which spearheaded this effort provided Florida law enforcement officials with substantially greater means by which both alcohol- and drug-impaired drivers could be removed from the roads. However, the members of the Steering Committee who travelled to Ft. Lauderdale returned with the impression that DUID enforcement in Florida occurred primarily as an afterthought to DUIA enforcement. Unlike Los Angeles, which created the DRE program as a direct response to the drug-impaired driving problem, Florida does not direct enforcement efforts specifically at DUID offenders. Nevertheless, the state's statutory framework does give police and prosecutors many of the tools necessary to prosecute the drug-impaired drivers they do encounter.

Florida Law

Section 316.193(1)(a) of the Florida Statutes Annotated makes it unlawful for any person who is under the influence of alcohol or other specified drugs, "when affected to the extent that his normal faculties are impaired," to drive or operate a vehicle. This provision is supplemented by the "implied consent" statute, §316.1932, which requires a driver suspected of DUID to consent to a urine test for drug analysis. The statute explicitly empowers the police to administer a urine test after a breath test has already been given, provided that a police officer has "reasonable cause" to believe that the person was driving under the influence of drugs. In the event that a driver is admitted to the hospital, unconscious, or involved in an accident where death or serious injury resulted, a blood test may be required (the driver has no right to refuse such a test). Refusal to consent to a urine or breath test is admissible in any criminal proceeding.

DUID Enforcement in Florida

Unlike Los Angeles, Florida does not have police officers specially trained in the identification of drug-impaired drivers. Consequently, prosecutors make their case against the DUID offender on the basis of chemical test results and videotaped evaluations of suspects. Although videotaping has proven to be highly effective in Ft. Lauderdale, the use of urine tests has created problems throughout the state.

The use of urine tests has two major drawbacks: (1) unsatisfactory specimen collection and handling, especially in rural regions, and (2) lack of evidentiary value. In urban areas, local laboratories are responsible for specimen analysis. Additionally, police in metropolitan regions have personnel whose primary duties involve the processing of DUI suspects. In contrast, police in rural areas generally dislike the process of urine collection and the extra work involved in the handling and shipping of specimens to the metropolitan labs. As a result, police in these areas often choose not to collect urine specimens.

The evidentiary value of urine test results has also been limited by some courts which have excluded them from evidence on the grounds that they are more prejudicial than probative in value. Because metabolites of some drugs may remain in urine after the drug's effects have dissipated, many courts do not consider positive test results to be indicative of the active influence of a chemical substance in a suspect at the time of specimen collection. For this reason, many Florida law enforcement officials have expressed a desire to use blood to test for drugs since blood overcomes at least some of the limitations of urine. The relative evidentiary values of blood and urine in DUID enforcement are discussed in detail in the next chapter.

Although the problems in urine testing have been a setback to DUID enforcement, the videotaped evaluations of a suspect's behavior at the time of arrest have been quite useful to police and prosecutors. In those DUID and DUIA cases where videotapes have been used, prosecutors report an 85% conviction rate. However, police departments in rural areas have been reluctant to invest the time, money, and training entailed in a videotaping program.

Despite the evidentiary limitations on urine testing and the problems encountered with both videotaping and chemical testing in rural areas, their usefulness in DUID enforcement is reflected in the fact that most DUID suspects choose to plead guilty when faced with positive urine test results combined with a videotaped record of their behavior at the time of arrest. Thus, the difficulties prosecutors face once they get into court are offset to a degree by the increased number of persons who decide not to go to trial.

Conclusion

In sum, the DUID experience in Florida appears to have produced mixed results. Enforcement is concentrated in those metropolitan areas with the resources necessary to successfully prosecute offenders. But even in those areas, DUID cases are viewed as an offshoot of a program directed at the alcohol-impaired driver. Only the most blatant offenders are prosecuted, partly because of the fact that it is not

uncommon for a court to exclude urine test results from evidence. Nonetheless, the statutory amendments enacted by the Florida legislature in 1982, along with the use of videotaped evaluations of suspects, have greatly enhanced the state's ability to remove drug-impaired drivers from the highway.

Summary: The National Perspective

In response to a heightened national awareness of the dangers posed by alcohol-impaired driving, many states have recently enacted legislation providing law enforcement officials with greater means to detect and prosecute alcohol-impaired drivers. Since most states include their DUID laws within their DUIA statutes, many of these reforms have been directed at the drug-impaired driver as well. Most important, 31 states now include chemical testing for the presence of drugs as a part of their implied consent statutes. In so doing, these states enable law enforcement officials to obtain evidence of drug consumption that was not available in the past. In every state contacted as a part of this research, police and prosecutors stressed the need for chemical testing as an essential part of a DUID enforcement program.

Nevertheless, the nature of drug testing requires that additional evidence be introduced to correlate a positive result to the time of the offense. In Florida, this is done with videotaping; in Delaware it is done with expert testimony on the significance of a particular test result; in Georgia it is done with police officer testimony on the driver's behavior at the time of the arrest; and Los Angeles has been highly successful using the DREs. The value of such evidence is enhanced by statutory language such as that of U.V.C. §11-902, which explicitly makes impairment of driving skills the gravamen of the DUID offense. If Virginia is searching for a means by which the drug-impaired driver can be detected and prosecuted, the experiences of other states point to a solution: (1) a legal structure which provides police and prosecutors with an unambiguous DUID offense and facilitates the collection of chemical evidence of drug usage, and (2) support mechanisms, especially in the areas of laboratory testing and police officer training, to effectuate these laws.

CHAPTER IV
PROBLEMS IN THE DETECTION AND PROSECUTION OF
DRUG-IMPAIRED DRIVERS IN VIRGINIA

Introduction

House Joint Resolution Number 10, which authorized this study of drug-impaired driving in Virginia, had its origins in a perception among Virginia legislators and law enforcement officials that most DUID offenders are escaping prosecution. This problem has been attributed to a legal structure oriented toward the alcohol-impaired driver, as well as difficulty in identifying drug impairment with the same degree of certainty as is possible with alcohol impairment. This chapter explores the status of DUID enforcement in Virginia and identifies those areas of the law and law enforcement which are obstacles to the detection and prosecution of drug-impaired drivers.

Virginia's Laws on Drug-Impaired Driving

Virginia's statutory authority to apprehend and prosecute alcohol- or drug-impaired drivers is derived principally from two sections of the Code of Virginia. The "impaired driving" provision, §18.2-266, prohibits a person from operating a vehicle while under the influence of alcohol or drugs. This provision is supplemented by the "implied consent" statute, §18.2-268, which empowers the Commonwealth to require a blood-alcohol test of persons arrested under §18.2-266. Refusing to consent to a test results in a six-month suspension of the person's driver's license and does not preclude prosecution under §18.2-266. Although these statutes provide the Commonwealth with an effective legal framework within which to apprehend and convict the alcohol-impaired driver, structural shortcomings in the law on drug-impaired driving make enforcement quite difficult.

Driving While Intoxicated: §18.2-266

§18.2-266 of the Code of Virginia provides that:

"It shall be unlawful for any person to drive or operate any motor vehicle, engine or train (i) while such person has a blood alcohol concentration of 0.15 percent or more by weight by volume as indicated by a chemical test administered in accordance with the provisions of §18.2-268, or (ii) while such person is under the influence of alcohol, or (iii) while such person is under the influence of any narcotic drug or any

other self-administered intoxicant or drug of whatsoever nature." (emphasis added)

A survey of Virginia case law disclosed only one decision interpreting the DUID portion of the statute. In Harrell v. City of Norfolk, 180 Va. 27, 21 S.E.2d 733 (1942), the Virginia Supreme Court upheld the conviction of a driver charged with driving under the influence of alcohol and nembutal, a barbiturate. The defendant contended that he should not have been convicted because his impairment was caused by the nembutal and not the alcohol. The nembutal was prescribed by a physician who allegedly had not fully informed him of its potential effects. The Supreme Court rejected his argument and construed the statute to include both prescription and nonprescription substances. Today, Virginia police and prosecutors apply the statute broadly to include within its scope any substance which has impaired a person's driving skills.

Despite the statute's broad scope, it is nevertheless inadequate for DUID prosecutions for two reasons: (1) the meaning of "under the influence" as interpreted by Virginia courts is alcohol-specific, thereby making definition of the elements of the DUID offense difficult; and (2) there is no proscription against the operation of a motor vehicle while under the influence of a combination of alcohol and drugs or a combination of drugs other than alcohol. Each of these problems is discussed in detail below.

Definition of the Offense

Since 1954, Virginia courts have interpreted "under the influence" to be synonymous with the statutory definition of intoxication. E.g., Brooks v. City of Newport News, 224 Va. 311, 295 S.E.2d 301 (1982); Gardner v. Commonwealth, 195 Va. 945, 81 S.E.2d 614 (1954). §4.2(14) of the Code of Virginia defines "intoxication" as follows:

"Any person who has drunk enough alcoholic beverages to so affect his manner, disposition, speech, muscular movement, general appearance or behavior, as to be apparent to observation, shall be deemed to be intoxicated."

This definition has been used to obtain a conviction in cases where a person has been charged with driving under the influence of alcohol in the absence of breath or blood test results. An arresting officer's testimony regarding evidence of impairment (inability to satisfactorily perform field sobriety tests, alcohol on breath, erratic driving, etc.) may be sufficient to show that the driver's behavior satisfies the statutory definition of intoxication. E.g., Doughty v. Commonwealth,

204 Va. 240, 129 S.E.2d 664 (1963); Holt v. City of Richmond, 204 Va. 364, 131 S.E.2d 394 (1963). However, such an alcohol-specific definition is obviously of little value with regard to the meaning of "under the influence" of drugs. Because neither case law nor statutes make it clear that drug-induced impairment of driving skills is the gravamen of the offense, police and prosecutors are uncertain as to what degree of impairment constitutes a violation. This problem is aggravated by the fact that the symptoms of drug use vary widely due to the tremendous variety of drugs and the diversity of individual reactions to a particular drug. In the absence of an interpretation of "under the influence" of drugs by Virginia courts, statutory changes will be necessary to specify the type of behavior proscribed by the Commonwealth's laws on drug-impaired driving.

No Combined Influence Offense

The second weakness in Virginia's law is the failure of the statute to specify driving under the combined influence of alcohol and other drugs or the combined influence of multiple drugs other than alcohol as a separate offense. As was discussed in Chapter II, research has found the "combination cases," especially those involving the combined usage of alcohol and another drug or drugs, to be perhaps the greatest problem in the DUID area. The dangers of combining alcohol and other drugs, or multiple nonalcoholic drugs, stem from the fact that combined usage may cause greater or longer lasting effects than does one drug alone.

Thus, studies have found that persons under the combined influence of alcohol and drugs are more likely to be "at fault" in an accident than are persons who drive under the influence of just one substance. Additionally, the use of some substances (such as marijuana) in combination with alcohol may produce impairment that is not present when the drug is used alone. When considered in light of the fact that between 17% and 25% of suspected drunken drivers with BAC's of less than 0.10% tested positive for drugs other than alcohol in several studies, the need for a combination offense is clear. Without a separate offense, a prosecutor may not be able to obtain a straight DUID or DUIA conviction because the impairment is caused by the combination and not by the isolated effects of either substance.

The Implied Consent Statute: §18.2-268

Virginia's "implied consent" statute, §18.2-268, empowers the Commonwealth to require a driver suspected of DUIA to choose between submitting to a blood-alcohol test or having his license suspended as a consequence of refusal. Although blood-alcohol test results were originally intended to serve only as auxiliary evidence corroborative of

observable symptoms of intoxication, Brooks v. City of Newport News, 224 Va. 311, 295 S.E.2d 301 (1982); U.S. v. Gholson, 319 F. Supp. 499 (E.D. Va. 1970), today they are the most important component of DUIA enforcement. The "per se" offense in §18.2-266 makes it illegal for a person to drive or operate a vehicle when his BAC is 0.15% or greater. Additionally, §18.2-269 establishes certain presumptions regarding intoxication on the basis of a person's BAC. Consequently, chemical evidence of impairment has come to be an important part of DUI enforcement in Virginia.

No Test For Drug Content

The main problem with §18.2-268 as regards drug-impaired driving is its failure to provide for chemical tests to obtain evidence of drug consumption. As currently worded, §18.2-268(b) provides that:

"Any person, whether licensed in Virginia or not, who operates a motor vehicle in this Commonwealth shall be deemed thereby, as a condition of such operation, to have consented to have a sample of his blood or breath taken for a chemical test to determine the alcoholic content of his blood, if such person is arrested for violation of §18.2-266. . .within two hours of the alleged offense." (emphasis added)

In a December 24, 1980, letter to Aubrey M. Davis, Jr., Commonwealth's Attorney for the city of Richmond, former Attorney General Marshall J. Coleman concluded that the express inclusion of the phrase "alcoholic content" impliedly excluded the possibility of drug testing under §18.2-268. "[I]t is my conclusion that a driver can be deemed to have consented to a blood test to determine the alcoholic content in his blood, but not to a similar determination as to other drugs that may be present." 1980-1981 Op. Att'y. Gen. 149.

The absence of a provision for chemical testing to detect drug use has been the greatest impediment to the prosecution of drug-impaired drivers. Virginia case law requires evidence of the "agency which produced the intoxication" in order to obtain a conviction under §18.2-266. Miller v. Commonwealth, 214 Va. 689, 204 S.E.2d 268 (1974); Clemmer v. Commonwealth, 208 Va. 661, 159 S.E.2d 664 (1968). In the absence of a driver's admission to drug consumption or physical evidence of usage, Virginia prosecutors have found it virtually impossible to convict a person suspected of DUID. As a result, both police and prosecutors strongly recommend that a drug test be made available to provide the Commonwealth with the required evidence of the agent causing impairment.

So long as the law does not make provisions for drug testing, police and prosecutors believe that the vast majority of drug-impaired drivers will escape detection and prosecution. State Police report that it is not at all uncommon to stop a driver who appears to be intoxicated and find that his BAC is well below the 0.10% presumption of intoxication. Despite a strong suspicion that the person's driving ability is impaired by drugs or a combination of drugs and alcohol, the inability to test for drug content precludes police from obtaining the necessary evidence. In some of the State Police divisions surveyed, police will charge the person with DUID and reckless driving, knowing that the DUID charge will ultimately be dropped. In most other divisions, the person is either charged with reckless driving or not charged at all.

No Multiple Tests

Amending §18.2-268 to permit drug testing would not eliminate all problems with the implied consent law. Even if drug tests were available, the reference to "a chemical test" in §18.2-268(b) would pose potential problems to DUID enforcement. Unlike the U.V.C. and many state implied consent laws which authorize "a test or tests," Virginia's law seems to imply that only one chemical test may be performed on a person arrested for driving under the influence of alcohol or drugs. Although this is not a problem in most DUID cases, it could preclude a drug test when a DUID suspect is given a blood-alcohol test first. Should the suspicion of drug-impairment arise after the suspect "passes" the blood-alcohol test, police would need to administer a second test. But if Virginia courts construe the language "a chemical test" to mean that only one test is allowed, then that one test would already have been administered in the form of a breath test and a drug analysis would not be possible. If evidence of drug impairment is to be obtained once a person has been given a blood-alcohol test, there must be a provision for multiple testing in the implied consent statute.

Driver's Choice of Tests

The use of drug tests under an amended implied consent statute would also be hindered by the provision in §18.2-268 which allows the driver to choose between a blood or breath test. A recent amendment to the Code of Virginia provides that "[a]ny person [arrested under §18.2-266] shall elect to have either the blood or breath sample taken, but not both." As with the case of the one-test limitation, this provision does not prevent accurate testing in DUID cases, where either breath or blood will provide adequate evidence of the driver's BAC. However, should the implied consent statute be modified to permit drug analysis, a driver who chooses a breath test could effectively preclude

testing for drug content. As will be discussed later, either blood or urine is required to obtain evidence of drug usage and impairment. If police suspect a person of DUID and wish to perform a chemical test to corroborate objective signs of impairment, they would have to depend upon the fortuitous act of the driver choosing the blood test. To avoid this potential loophole, §18.2-268 should be amended to provide the arresting officer with the right to choose the type of test in DUID cases.

Refusal Not Admissible

The final problem with Virginia's implied consent statute is its failure to make the arrested driver's refusal to submit to a chemical test admissible as evidence of guilt. §18.2-268(i) provides that:

"The failure of an accused to permit a sample of his blood or breath to be taken for a chemical test to determine the alcoholic content of his blood is not evidence and shall not be subject to comment by the Commonwealth at the trial of the case, except in rebuttal."

In both DUID and DUIA prosecutions, the inability to introduce the driver's refusal as evidence of guilt can preclude conviction. Unless the outward manifestations of intoxication are strong enough to support a conviction on that basis alone, a driver may avoid a DUI conviction by refusing to consent to a blood or breath test. As has been stressed throughout this report, the availability of chemical evidence of drug usage is especially crucial in the DUID context. Because test results are almost mandatory for conviction, a DUID offender could avoid conviction by refusing to consent to a test. Though he would be subject to a license suspension, this person would avoid the increased penal and monetary sanctions imposed upon habitual DUI offenders under §18.2-270.

Summary of Deficiencies in Virginia's Laws on Drug-Impaired Driving

The current structure of Virginia's impaired driving and implied consent statutes is inadequate for the purpose of prosecuting the drug-impaired driver. Because the scope of the DUIA problem is better known and DUIA prosecutions are far more common than DUID prosecutions, legislative action has been directed almost exclusively at the alcohol-impaired driver. As a result, there are significant weaknesses in the Commonwealth's legal ability to prosecute DUID cases. These deficiencies are:

- No statutory or judicial definition of the type of behavior

necessary to show that a person is under the influence of drugs

- No separate offense for driving under the combined influence of alcohol and other drugs, or the combined influence of drugs other than alcohol
- Inability to perform chemical tests for drugs under the implied consent statute
- No provision for multiple tests in the event that the results of a blood-alcohol test do not correspond to objective evidence of impairment
- Failure to provide the arresting office with a choice of tests; thus creating a loophole by which a drug-impaired driver could evade police attempts to get a blood or urine sample necessary for drug analysis
- Inability to introduce the driver's refusal to consent to chemical tests in a DUI trial

If Virginia is to make its laws on drug-impaired driving more enforceable, modification of the existing legal structure is essential. This need for change is stressed by police and prosecutors, both of whom especially emphasize the need for a drug test in the implied consent statute as a prerequisite to the detection and prosecution of drug-impaired drivers. Until legal changes are made to provide law enforcement personnel with the tools of enforcement, there is little the Commonwealth can do to address the problems posed by the drug-impaired driver.

Training

Interviews with state police from 12 localities in various parts of the state identified a lack of specialized training in the detection of drug-impaired drivers to be the second major problem with the current state of DUID enforcement. According to instructors at the State Police Academy and the Department of Criminal Justice Services, police officers receive little if any training in DUID enforcement. Officers do receive some training in the identification of drug users as part of their instruction in drug offenses, but this has not been carried over to the DUI curriculum. The lack of instruction in DUID enforcement is attributed to the fact that DUJA is thought to be the main impaired-driving problem.

Because of the lack of DUID training, police usually cannot justify a DUID arrest solely on the basis of their observations of the driver. Therefore, some drivers who police believe have been using drugs are not arrested. Furthermore, the lack of specialized DUID training limits the evidentiary value of police officer testimony in DUID prosecutions. Since the implied consent statute does not include drug testing, the only way in which the Commonwealth can show that a driver was under the influence of drugs is through the driver's confession or by testimony on the outward manifestations of impairment. According to prosecutors, nonexpert testimony on the person's behavior will not support a conviction without some evidence of the "agency which produced the intoxication," such as drugs found on the person or in the car. Although there is no case law in Virginia on the level of training necessary for an officer to qualify as an expert in DUID cases, decisions in Illinois, California, and Texas have held that years of experience in DUID and other drug-related arrests are a minimum requirement for qualification. See e.g., People v. Jacquith, 472 N.E.2d 107 (Ill. App. 1 Dist. 1984). Since most Virginia police officers who arrest DUID suspects do not meet this level of expertise, their opinions on drug-impairment would not be admissible.

Summary: The Status of DUID Enforcement in Virginia

At present, DUID enforcement in Virginia is spotty at best. Because of structural shortcomings in the DUID laws which limit the Commonwealth's authority to gather evidence and fail to adequately define the elements of the offense, police and prosecutors face major obstacles in prosecuting the drug-impaired driver. Additionally, the lack of specialized training in DUID detection limits a police officer's ability to identify the drug-impaired driver and reduces the evidentiary value of his testimony at a subsequent DUID trial.

Because of these problems in enforcement, DUID convictions are relatively rare in Virginia. As shown in Table 1, there have been only 132 convictions since 1972, and only 4 in all of 1984. All known convictions were obtained with evidence of drugs or drug paraphernalia or from a driver's admission to drug consumption. Without such evidence, DUID charges are not brought or are dropped. Consequently, many persons who drive in violation of §18.2-266 avoid prosecution. Unless action is taken to provide law enforcement personnel with the means to detect and prosecute these persons, a significant class of dangerous drivers will continue to imperil Virginia's highways.

CHAPTER V
STRENGTHENING DUID ENFORCEMENT

Introduction

Chapter V summarizes the findings and conclusions of the previous chapters and proposes recommendations for strengthening DUID enforcement in Virginia. In Part A of this chapter, the technical study performed by Dr. Robert V. Blanke of the Medical College of Virginia Hospital Toxicology Laboratory is discussed and a procedure for chemical testing for drugs in Virginia is offered. In Part B, various reforms in Virginia's DUID laws are recommended. A detailed explanation for each recommendation is included. In Part C, methods by which police and prosecutors can combine test results with other evidence to show impairment are reviewed, and recommendations for usage in Virginia are made. Finally, Part D is a review of several other options relevant to a DUID enforcement program but not recommended as a part of this report. A summary of these recommendations is included in Chapter VI.

The discussion of DUID enforcement across the nation in Chapter III concluded that successful prosecution depends upon two factors: (1) a legal structure which incorporates drug testing in an implied consent statute and defines the DUID offense to reflect drug-induced impairment of driving skills, and (2) the use of corroborative evidence, such as police officer and expert testimony, to correlate drug test results to behavior at the time of arrest. In contrast, Virginia law lacks a provision for drug testing, making it almost impossible for police to obtain evidence of the source of a driver's suspected impairment. Additionally, Virginia courts have interpreted the phrase "under the influence" to be alcohol-specific, thereby leaving the elements of the DUID offense in question. Finally, Virginia police generally do not have enough training in the medical symptomology of drug impairment to justify a DUID arrest solely on the basis of field observations or offer an opinion as to the source of any alleged impairment in court. As a result, only those offenders who admit to driving under the influence of drugs or are found to have drugs in their possession are convicted of DUID.

If the Commonwealth is to provide its law enforcement personnel with the resources necessary to combat drug-impaired driving, the course of action it should take seems to have been established by the experiences of other states. First and foremost, Virginia needs to make chemical testing for evidence of drugs a part of §18.2-268. Enabling police to withdraw bodily fluids for the purpose of drug testing would provide them with the evidence of "the agency which produced the intoxication" required by Virginia case law. Furthermore, such a

provision would bring DUID enforcement more in line with the procedures currently used in DUIA cases, where chemical evidence of impairment has come to be an expected part of the process.

Secondly, certain other portions of the implied consent statute need to be amended to provide law enforcement personnel with a framework within which chemical tests can be used effectively. The administration of more than one test in a DUI arrest needs to be explicitly authorized by statute, thereby enabling police to require a drug test after a suspect "passes" a breath test. A police officer needs to be able to designate the type of specimen to be obtained in a DUID case in order to assure that the sample can be analyzed for drug content. And because of the crucial role which drug tests play in a DUID prosecution, a person's refusal to submit to drug testing should be made admissible at trial.

If drug testing is made a part of the DUID enforcement process, the definition of the DUID offense should also be revised to better reflect impairment of driving ability. Such a change would enable prosecutors to combine chemical evidence of drug usage with observable evidence of impairment at the time of arrest and thereby obtain a conviction by establishing drug-induced diminution of driving skills. Additionally, the DUID offense in §18.2-266 needs to be amended to include a "combination offense" so as to prevent a driver from avoiding a conviction on the grounds that no one substance alone significantly impaired his driving.

Finally, evidence on the outward manifestations of impairment is needed to corroborate test results when a DUID case goes to trial. In some states (Florida, California, and Georgia, for example), the vast majority of DUID suspects plead guilty in the face of a positive blood or urine test result. In time, it is anticipated that a similar result could be achieved in Virginia. When a case does go to trial, however, the current nature of drug testing requires that corroborative evidence be introduced to show impairment. Because the metabolites of some drugs remain in a person's bodily fluids after the drug's effects have worn off, a DUID offender may legitimately argue that the test result alone is not dispositive of guilt. Therefore, some states combine a toxicologist's interpretation of test results with a police officer's nonexpert testimony on the driver's behavior to show impairment. In others, a videotaped record of the driver's conduct is used in addition to tests. At one time, California had medical doctors evaluate a suspect after his arrest and testify in court on the results of his evaluation. But the most effective source of corroborative evidence is the Drug Recognition Expert (DRE) program used by the Los Angeles Police Department. Because DREs are capable of qualifying as experts in court, they may offer an opinion as to the source of the driver's impairment. When their opinion is in agreement with the results of the drug tests,

prosecutors have a virtually irrefutable case against the drug-impaired driver.

Part A: Chemical Testing

Though not legally required, those states with the most successful DUID enforcement programs use a chemical test of some bodily fluid to obtain evidence of impairment. While more problematic than blood or breath tests for alcohol, blood or urine tests for drugs are deemed by police and prosecutors to be essential to effective prosecution. As compared to DUIA, understanding the behavioral manifestations and physical symptoms of drug use is more important in DUID. However, the analysis of some bodily fluid is still usually the critical, incriminating evidence explaining the cause of the impairment observed. The inability to obtain such chemical tests under Virginia's implied consent law provided the impetus for this study. Therefore, the implementation of chemical testing is a necessary component of any effort to strengthen the enforcement of DUID laws in Virginia.

The evaluation of chemical testing for drugs requires medical and technical expertise. Therefore, the assistance of Dr. Robert V. Blanke, Professor of Pathology and Pharmacology/Toxicology and Director of the Medical College of Virginia Hospital Toxicology Laboratory, was sought. Dr. Blanke was asked to survey the medical literature on the effects of drugs on driving, the correlation between physiological drug concentrations and driving impairment, and the state of the art in drug detection technology. Dr. Blanke also conducted a survey of many labs currently involved in DUID specimen analysis to assess their experiences and practices. Finally, Dr. Blanke prepared recommendations for techniques to be implemented in Virginia. What follows is essentially a synopsis of his report. A full text of the report is available from the Virginia Highway and Transportation Research Council.

Drug Testing is Different from Alcohol Testing

The use of chemical tests in DUID enforcement is not analogous to their use in DUIA enforcement. The tests for drug detection and analysis are much more complicated than the relatively simple tests for alcohol. While alcohol is a simple molecule, there are a vast number of drugs with great variety and complexity in their chemical structures. This variety requires more sophisticated testing than for alcohol, and therefore more involved and expensive laboratory techniques.

Further, the support in scientific literature for application of DUID test results is not as extensive as that for alcohol (this subject

was also discussed somewhat in Chapter II). This is so because of the relatively recent interest in the subject of DUID and the continually improving sophistication of analytical technology. Other factors limiting the value of scientific documentation on DUID are the variety of effects which drugs produce in the drug user, the inadequate definition of the driving skills impaired, and the inability of reproducing these conditions in a controlled manner. These problems make the prediction of the dangerousness of a drug more difficult than that for alcohol. Also, research and development are constantly changing the attributes of various drugs, so generalizations about effects on driving, even within the same class of substances, are difficult. Primarily, though, this limitation is due to the diversity of drugs and the relatively small amount of definitive research available on each substance. There simply is much more experience with alcohol, which is a single compound.

Perhaps the most distinctive consequence of this difference between the state of scientific knowledge underlying DUID versus that for DUIA is the inability at this time to establish levels of drug concentrations which presumptively indicate impairment, as has been done for blood-alcohol content. DUIA enforcement relies very heavily on BAC tests, yet such an approach is not currently feasible in DUID prosecutions. Not only is there inadequate documentation to support presumptive levels for drugs, but also the physiological responses to drug ingestion vary more widely. It is possible to develop a tolerance to some drugs, and the difference in effects on chronic users as opposed to new users may be significant. Though this phenomenon also occurs somewhat with alcohol, it is not as well understood in drugs. A few health conditions which of themselves impair driving ability may be alleviated by use of certain drugs that make the person a better driver. The evidentiary value of test results is affected by the variations in drug metabolism and excretion rates, which also differ greatly among substances and are affected by several physiological factors. It is thus difficult even to predict concentrations existing at a time other than the moment of sample collection. Thus, applications of drug tests must differ from practices using results of BAC tests.

These difficulties demonstrate that chemical testing for drugs cannot be dispositive of guilt as is often the case with tests for alcohol. Rather, drug test results are used to corroborate other evidence of impairment, such as observed behavior. Chemical testing for drugs can provide a useful means of demonstrating the cause of impairment. While not as developed as the documentation on alcohol, much still is known about the effects of drugs. Expert testimony can identify the drug, its concentration, and its known pharmacological effects, and explain its effect on the ability of a person to perform complex tasks. Testimony can also explain the ramifications of metabolism and tolerance to the drug. Thus, inappropriate use of a

drug, nontherapeutic dosage, or even illicit drug use can be demonstrated by a chemical test. When related to testimony concerning a driver's behavior, test results can indicate whether the drug concentration detected is consistent with the impairment observed. Chemical testing can thus be combined with other evidence to show that observed impairment likely results from the detected substance.

Laboratory Analysis: Overview

Laboratory analysis serves two purposes. The first is the function of screening, where testing identifies those individuals who have ingested a drug at some time and may be affected by it. The second function is to provide proof of the identity and concentration of the drugs present, allowing reasonable interpretation of the results when coupled with corroborating evidence of impairment. These functions closely parallel the recommended laboratory procedures, which involve essentially two steps: screening and definitive analysis.

The degree of confidence in the test results depends on the rigor of the analytical techniques used, the training of the personnel performing the analysis, and the quality control measures. Since DUID specimen analysis is to be used for criminal prosecution, the need for competent analysis is very high. Therefore, it is recommended that only techniques widely accepted in the scientific community be used. Such techniques meet the legal requirements of competence. Several of these processes are discussed below. In addition, the laboratory should establish and follow standard operating procedures and institute an effective quality control program.

Specimen Types

Samples of several different body tissues or fluids may be tested for drug content. They are not of equal reliability or equally easy to analyze, however. Further, the logistics of specimen collection and transportation to the laboratory must be considered.

Many states allow for the collection of either blood or urine samples for drug analyses, and some also allow the use of saliva or other bodily substances. Of these, the preferred specimen seems to be blood, even when other options are available. Blood provides information about drugs circulating in the body and thus available to the central nervous system, with the potential of affecting the brain and other tissues involved in coordination or other driving skills. The preference for blood is further supported by the availability of the data base established through therapeutic drug monitoring, a practice where concentrations of drugs are watched with the objective of

maintaining therapeutic levels. This considerable data base is valuable in determining blood concentrations of drugs representing abuse or levels at which adverse effects occur. Therapeutic drug monitoring has shown that this correlation between drug concentration and its effects cannot be reliably determined from tests of other body fluids, particularly urine.

The usefulness of urine tests is limited by the fact that urine is basically a waste product. As such, it often contains only metabolites of drugs, which are the by-products of the body's processing of the substance. Thus, often no trace of the parent drug is present in the urine. Further, metabolites may be retained by the body and excreted gradually, well beyond the time of direct influence of the drug. Urine itself is often retained in the bladder for several hours, which further complicates any correlation between the presence of a drug and its influence. Additionally, the state of the body's hydration may affect the ultimate concentration excreted. Urine is thus of limited value in producing an indication of the amount of a substance active in the body at the time the specimen is obtained, even though it may be valuable in tests for detecting the presence of the drug.

Because drug concentrations may be higher in urine than in blood, urine is sometimes used for initial screening for the presence of drugs. The qualitative analytical methods detect higher concentrations of a drug or its metabolites more easily. Several labs use urine screens to identify drugs to look for in a subsequent, definitive blood test.

The procurement of specimens presents logistical considerations which must be considered when choosing the type of sample to test. The chief advantage of using urine is that it is usually readily obtainable, can be collected anywhere where some privacy can be offered, and is not invasive. There are also disadvantages, though. Usually, the collection must be supervised by an officer of the same gender as the suspect to protect the integrity of the sample and the chain of custody. This may pose a problem for smaller police departments which do not always have a female officer on duty. The collection of urine is often considered unpleasant by police officers. In addition, the specimen containers must be carefully sealed and are messy to handle. Their bulkiness makes transporting them more difficult and expensive than the transport of other specimens. The collection of blood, on the other hand, has the disadvantage of being invasive, requiring venipuncture to obtain a sample. The withdrawal must be performed by a certified person, usually a qualified medical professional. Thus, the suspect must often be transported to a medical facility. In rural areas, this can be particularly inconvenient and time consuming. However, the tubes containing blood samples are easily sealed and relatively inexpensive to mail to the laboratory. Further, in Virginia the implementation of processing of blood samples for DUID arrests would not be difficult

since an identical system is in place for handling DUIA blood tests. The initiation of drug testing of blood would thus require no more effort for specimen collection than is now required for testing of blood for alcohol, but would probably increase the overall number of blood tests performed.

Blood is recommended as the specimen for use in Virginia. Although urine offers some advantages for initial screening, the fact that both screening and definitive quantitative analysis can be done on one blood sample makes the collection of urine in addition to blood unnecessary. This point is reinforced by the logistical difficulties of collecting and shipping two types of samples. Though blood is technically more challenging than urine to analyze, the results obtained from blood tests provide more meaningful evidence and are thus more amenable to interpretation. This advantage, coupled with the ease of procurement, transportation, and compatibility with the existing DUIA system, supports the testing of blood for drugs.

Because of this choice of samples, the recommended revision of Va. Code § 18.2-268 mentions only blood testing for drugs (see Appendix D). The use of blood would minimize the expense of providing laboratory services for DUID testing, since facilities will be required for processing of only one specimen type. Should experience and evolving technology make testing of other substances desirable, amendment will be necessary.

One other statutory ramification of adopting blood tests for DUID enforcement is found in Va. Code §18.2-268(d1) (see Appendix D). Blood specimen collection is most easily accomplished using commercially available collection tubes known as "Vacutainers". These hold approximately 7 ml each, which is a change from the two 15-ml tubes currently used. Recommended subsection (d1) has been revised to allow collection in any number of these "vials," though probably only four will be needed to obtain the desired 30-ml specimen. No more blood than is drawn for DUIA will be needed for DUID. These vials or tubes can then be "divided between" the "two containers" - cardboard mailing boxes - currently used. This should generally result in two tubes per box. These containers can then be handled as now is done for DUIA samples; one being sent to the Division of Consolidated Laboratory Services and the other retained for 72 hours by the police for the defendant's use. Withdrawal personnel, equipment, and methods can remain the same as those specified in subsection (d) of the statute.

Analytical Techniques

A variety of techniques are available for detecting and measuring the presence of drugs in blood. These tests are of two kinds:

qualitative tests which merely detect the presence of a substance, and quantitative tests which assess the concentration of the substance in the bloodstream. Some states rely solely on qualitative tests for DUID enforcement, but some of these jurisdictions have seen that approach challenged in court. Most jurisdictions use a qualitative test as a preliminary screen and then do a definitive, quantitative test to confirm the presence and measure the concentration of the drugs initially detected. This combined approach is what is recommended for Virginia.

Several variables affect the design of the analytical methods to be used. These include the number of samples to be processed, the drugs to be detected, the need to assess quantitative levels, the type of sample analyzed, and the analytical confidence required to assure accurate results. Because the discussion of the various methods is very technical, the ensuing description focuses on the methods recommended for use in Virginia.

The initial screening tests commonly rely on immunoassay analysis, where antibodies--protein molecules that react specifically with certain other molecules--are used to help identify the substances in the sample. The two most popular systems using immunoassay analysis are the EMIT system, which uses an enzyme-mediated immunoassay (EIA), and the Abuscreen system, which uses radiolabeled drug molecules for radioimmunoassay (RIA). The EMIT system is designed for urine only, while the Abuscreen may be used for blood or urine. Though EMIT systems are portable, the Abuscreen technique is slightly more reliable. The Abuscreen, or a similar RIA method, is thus recommended for use as the initial screening process in Virginia.

The second type of analysis used in drug testing is based on the science of separating one chemical from another, or chromatography. The separation of the chemicals may take place while they are in a gaseous state--gas chromatography (GC), while in a liquid state--liquid chromatography (LC), or on a thin layer of a special medium--thin layer chromatography (TLC). Once the chemicals are separated, each distinct substance can be analyzed. One way of doing this is by disintegrating the separated chemicals one at a time and analyzing the weights or mass of the resultant parts. Each chemical produces its own spectrum of masses, which can be compared with the spectra of known substances to identify an unknown chemical. This is known as mass spectrometry (MS). Other identifying techniques include detecting compounds containing nitrogen or phosphorous (NPD) or flame ionization (FID). The combination of chromatography and one of the identifying techniques can definitively identify substances indicated on the initial screen and quantify the amount present. A GC/MS combination is recommended for use in Virginia.

Since not all substances are amenable to analysis by the same methods, the use of both RIA and GC/MS techniques is recommended. The processes should be viewed as complementary. Together these techniques will allow accurate analyses of enough drugs to detect and measure most of the popular and dangerous substances which can cause driving impairment.

The adoption of particular techniques does not require specific statutory enactment. In fact, such statutory specificity is undesirable here, as evolving technology may require changing those methods at some point.

Laboratory Experiences in Other States

One aspect of the technical study of laboratory experience was a survey of labs engaged in testing samples for use in DUID enforcement. Much of what was learned is reflected throughout this section and in Chapter II on the magnitude of the DUID problem. While these experiences are not conclusive indications of what can be expected in Virginia, they are very helpful.

It appears that significant success has been achieved in many of the jurisdictions using drug tests as part of their DUID enforcement programs. Other generalizations indicate a preference for blood as the sample of choice. The combination of several methods of analysis is common, and GC/MS is used frequently. One encouraging observation from states with established programs is that, generally, expert testimony is not frequently required. In some states, its use is very rare, probably because suspects usually plead guilty in the face of incriminating drug test results.

Options for Implementation

Three optional laboratory programs for DUID enforcement were presented by the technical study. The choice of options depends on the drugs to be looked for and the type of specimen to be utilized. The recommended option, which has been referred to already, would use blood as the sample and would conduct analyses by a combination of RIA and GC/MS. The drugs covered would include those listed later in Table 4. The convenience of this system is that specimen collection can be piggybacked onto the existing system for collecting blood samples for alcohol analyses. The same amount of blood as is currently drawn--30 ml--is all that would be required. Logistics of sample handling could remain the same, with the exception of using four 7-ml tubes for ease of blood collection as opposed to the two 15-ml tubes currently used, as described above.

An estimated budget for this recommended option is presented in Appendix B. Cost estimates for start-up range from approximately \$400,000 to \$675,000. The range results from the inexact number of tests anticipated and the variable cost of the facilities or space provisions to be chosen. The start-up costs include capital costs plus one year's annual operating costs, the latter of which is estimated to range from \$157,500 to \$216,500.

Another option would use both urine and blood samples. The urine sample would be used for the preliminary screen, and the blood for the secondary, definitive analysis. A possible twist to this option is the utilization of the EMIT devices for conducting preliminary EIA urine screens in the field, much like the preliminary breath tests now used in DUIA. If a Drug Recognition Expert (DRE) program is instituted, the urine screens could provide a useful adjunct to their work. However, the limitations of urine as a sample, the high cost of the EMIT machines, and the cost of training multiple machine operators reduce the attractiveness of this option.

The third option would involve the collection of urine samples only and their analysis by one of the immunoassay techniques followed by GC/MS analysis. This approach would be less expensive than the others. The problems encountered in other jurisdictions relying on urine alone and the aforementioned limitations of urine analysis make this option one that is not recommended.

Drugs to be Included

Since the enormous variety of drugs makes it technically impractical to test for all drugs, certain substances must be selected for detection. The list of drugs recommended for screening in chemical tests is given in Table 4, with examples of the substances listed in each category. As can be seen, only Group I drugs are definitely recommended to be included at this time. A discussion of the potential debilitating effects of some of these drugs was given in Chapter II.

The scheme suggested is based on consideration of several factors. The drugs have been grouped by balancing their potential to impair (their dangerousness), their amenability to detection and quantification, their popularity or frequency of use, and a subjective estimation of the cost/benefit ratio for testing them. It must be noted that the relative weights of these factors is not static; as more research is done or technology improves, some reordering of priorities may occur. Further, drug usage is known to vary with availability, and the supply of drugs, particularly controlled substances, may vary.

TABLE 4
DRUGS FOR SCREENING

GROUP I Highly Recommended for Screening	GROUP II Recommended for Evalua- tion and Consideration	GROUP III Not Recommended for Screening at this Time
<p>PCP and analogs</p> <p>Opiates</p> <ol style="list-style-type: none"> 1. morphine 2. hydromorphone 3. hydrocodone 4. codeine 5. oxycodone <p>Cocaine</p> <p>Amphetamines</p> <ol style="list-style-type: none"> 1. methamphetamines 2. amphetamines <p>Tricyclic antidepressants</p> <ol style="list-style-type: none"> 1. amitriptyline 2. nortriptyline 3. imipramine 4. desipramine <p>Barbiturates</p> <ol style="list-style-type: none"> 1. phenobarbital 2. amobarbital 3. secobarbital 4. pentobarbital 5. butabarbital <p>Benzodiazepines</p> <ol style="list-style-type: none"> 1. diazepam (Valium) 2. nordiazepam 3. oxazepam 4. lorazepam 5. chlordiazepoxide (Librium) 6. flurazepam 	<p>Hallucinogens</p> <ol style="list-style-type: none"> 1. LSD 2. cannabinoids <p>Hypnotics</p> <ol style="list-style-type: none"> 1. methaqualone (Quaaludes) <p>Antidepressants</p> <ol style="list-style-type: none"> 1. amoxapine 2. doxepine 3. protriptyline 4. alprazolam 5. trazodone <p>Antihistamines</p> <ol style="list-style-type: none"> 1. triprolethamine 2. diphenhydramine 3. chlorpheniramine 4. pyrilamine <p>Analgesics & Anesthetics</p> <ol style="list-style-type: none"> 1. fentanyl 2. lidocaine 3. propoxyphene <p>Antipsychotics</p> <ol style="list-style-type: none"> 1. haloperidol 2. phenothiazines <p>Miscellaneous</p> <ol style="list-style-type: none"> 1. propranolol 2. ephedrine 3. phenylpropanolamine 	<p>Analgesics</p> <ol style="list-style-type: none"> 1. acetaminophen (Tylenol) 2. salicylate (aspirin) 3. ibuprofen <p>Antibiotics</p> <p>Cancer chemo- therapeutic agents</p>

Further, these recommendations are meant to be flexible. It may be decided, for instance, that a drug's frequency of use makes it something to screen for regularly, despite the cost of doing so and any equivocal documentation of its impairing effects. Another reason for flexibility arises if a DRE program is initiated. A drug expert may recognize the symptoms of one of the drugs in Group II or Group III in a suspect, and it may be desirable to be able to test for that drug upon request.

One notable omission from the Group I drugs is marijuana. Marijuana is plant material, the active, potentially impairing constituent of which is referred to as THC (see Chapter II). THC is a "cannabinoid," and driving under the influence of cannabinoids is prohibited by the recommended revision of Va. Code §18.2-266 (see Part B). However, it is not recommended that this substance be routinely tested for at this time. Though marijuana use is very popular, the effects of the drug on driving are controversial. Public perception of the magnitude of the danger of combining marijuana use with driving lacks adequate supporting scientific data.

A more important consideration underlying the recommendation to not test for marijuana at this time is the limitation of analysis. Test results are of questionable value in demonstrating the influence of THC. As with all drugs, the effect of THC depends primarily on the dosage, and the quantity of THC absorbed by marijuana smokers is very small. In addition, the active component is rapidly converted to an inactive metabolite. This is the substance measured by EIA, RIA, and other tests in common use. Thus, the evidence for THC use is indirect. Further, the metabolite is retained by the body for several weeks after use. Since the metabolite is excreted over a long period, positive results cannot be related easily to a time of use of marijuana, and thus limit the evidentiary value of chemical tests.

If this drug is included as one to be tested for, epidemiological evidence suggests that from 40% to 60% of specimens will respond positively to a qualitative screen for the metabolite. Consequently, a large number of specimens must be subjected to the more costly confirmation by GC/MS. This will necessitate an increase in staff, equipment, and overall cost of the program, without a predictably proportionate increase in the conviction rate. The additional cost of testing for marijuana is estimated at \$164,000 to \$212,000 (see Appendix B). Thus, the cost/benefit determination here suggests overlooking marijuana testing for the time being.

Many authorities agree that measuring both THC itself and the metabolite concentration in blood simultaneously can provide a basis for estimating the time of marijuana use. This technology is under development, and the proposed legislation provides for this advance. Sufficient blood will be collected to provide the laboratory the means

for testing of both components. When this step is proven to be practical and effective, the laboratory can expand its program to include such testing.

Other Recommendations

Legislation should not be limited to a few specific drugs because the evolving state of knowledge and variety of substances available would quickly make any such definition out-of-date. Therefore, a general prohibition against driving while under the influence of all drugs which impair one's motor skills or perception would provide the flexibility necessary to accommodate modifications and improvements. The avoidance of statutory specificity is also important for analytical techniques, as flexibility is necessary in that area as well. Thus, while the law should prohibit DUID and enable the performance of chemical tests, it should not unnecessarily specify the drugs to be identified or the methods to be used. Further, should testing of more than one type of bodily substance become practical, the statute should be amended so as not to unnecessarily limit the type of specimens tested.

Part B: Statutory Reform

§18.2 -268: The Implied Consent Statute

Throughout this report, the use of chemical testing to determine drug content has been identified as being crucial to successful DUID enforcement. Because of its critical evidentiary function as a means of identifying the source of a driver's impairment, a DUID conviction is virtually impossible to obtain in the absence of test results. As the preceding section has shown, the chemical analysis of bodily fluids for drug content is a viable option in Virginia. Therefore, §18.2-268 of the Code of Virginia should be amended to provide police officers with the authority to test a driver's bodily fluids for drugs other than alcohol.

Because of the previously discussed limitations on urine testing, blood is the preferred specimen for chemical analysis to determine drug content. Both screening and definitive quantitative analysis can be done with one blood sample, making the collection of other specimens unnecessary. Additionally, the Division of Consolidated Laboratory Services has a well-established procedure for the collection and analysis of blood specimens. Should the implied consent law be changed to permit the chemical analysis of blood samples to determine drug content, the Division has indicated that it is capable of administering

the testing process. Conversely, the Division reports that major modifications would be required before it would have the capacity to analyze urine samples for drug content. When combined with the relatively limited evidentiary value of urine test results, this observation led the Steering Committee to decide that blood would be the only statutorily authorized sample for drug analysis at this time.

If the chemical analysis of blood samples for drug content is made a part of the implied consent statute, three additional changes need to be made to enable police officers to effectively use the drug test. As was discussed in Chapter IV, the need for a test generally arises after a driver has been given a breath test. In the typical scenario, a police officer arrests an apparently impaired driver and requests that he submit to an evidentiary breath test. If the results of the test show a BAC considerably less than the 0.10% statutory presumption of intoxication, but the driver nevertheless appears impaired, the officer may then wish to obtain a sample for drug analysis. Because the current wording of §18.2-268 authorizes only "a chemical test," the DUID suspect could refuse to consent to a drug test on the grounds that only one test is authorized under the statute. Therefore, the implied consent statute needs to be amended to allow the administration of more than one chemical test.

Secondly, the fact that blood is the only substance in the statute which provides evidence of drug consumption requires that a police officer be allowed to designate the type of test administered to a DUID suspect. Because the current language of §18.2-268 allows the driver to choose the type of test, a DUID suspect could effectively preclude police from testing for drugs by choosing to submit to a breath test.

Finally, §18.2-268(i) provides that a person's refusal to consent to a chemical test is not admissible in a DUI case. The special needs of a DUID prosecution warrant the admission of a refusal into evidence at trial. Unlike drunken driving cases, where the commonly recognized symptoms of alcohol intoxication make it possible for prosecutors to convict a person in the absence of blood-alcohol test results, the ambiguous nature of the symptoms of drug-impairment makes it virtually impossible to prosecute without test results. Consequently, a driver who refuses to submit to a drug test would almost assuredly avoid a conviction and its consequences.

As the experiences of California, Florida, and Georgia have shown, the admission of a defendant's refusal to consent to a drug test, when combined with testimony on the observable evidence of impairment, often facilitates conviction. Additionally, the United States Supreme Court recently held that the introduction of a refusal to take a blood-alcohol test into evidence in a DUI trial is constitutionally permissible. South Dakota v. Neville, 456 U.S. 971 (1983). In light of the essential

role drug tests play in a DUID prosecution, the proven effectiveness of admitting a refusal into evidence, and the Supreme Court's sanction of such action, §18.2-268 should be amended to allow the Commonwealth to introduce into evidence a defendant's refusal to submit to a drug test.

The recommended changes in the implied consent statute are included in the proposed revision of §18.2-268 shown in Appendix D. Subsection (b) is the general "implied consent" provision, giving the Commonwealth the power to obtain a blood or breath sample for both alcohol and drug analysis. Drug testing is made a part of the statute by adding the phrase "and/or drug." This phrase makes it clear that police may designate a drug test both in lieu of or in addition to an alcohol test, covering both the straight DUID and combination DUID/DUIA cases. To eliminate any inference that only one test is permissible, the words "sample" and "test" are changed to their plural forms. Thus, police clearly have the power to require a blood test for drug analysis after a breath test has been administered. Additionally, in the event that a person chooses blood as the specimen for alcohol analysis and police do not suspect drug impairment until after receiving the results of the blood-alcohol analysis (i.e., the BAC does not correspond to the apparent level of impairment), the words "samples" and "tests" allow for a subsequent analysis to be performed.

Subsection (b1) is intended to serve as the "DUIA subsection." It permits an individual arrested for DUIA to choose to have either his blood or breath analyzed to determine his BAC. The provisions of this subsection regarding a driver's choice of tests are identical to those in subsection (b) of the current statute.

Subsection (b2) has been written to serve as the DUID and combination DUIA/DUID subsection. If a police officer arrests a person for driving under the influence of a drug or combination of drugs or the combined influence of alcohol and drugs, this subsection empowers the officer to require that person to submit to tests to determine the alcohol and drug content of his blood. If the person is first arrested for DUIA and chooses to submit to a breath test, subsection (b2) allows the officer to also require the person to submit to a blood test to determine the presence or absence of drugs, so long as the officer has "reasonable cause to believe the person was driving under the influence of any drug or combination of drugs or the combined influence of alcohol and drugs." Thus, a police officer can designate blood as the specimen of analysis in DUID cases.

As in the case of a DUIA arrest, the driver may refuse to submit to a drug test, but will face the prospect of a license suspension. Additionally, subsection (b2) makes a person's refusal to submit to drug testing admissible in a DUID or combination DUIA/DUID prosecution. The person must be advised that the refusal can be used against him at trial

and must also be advised of the penalty for and consequences of a refusal. This change does not effect subsection (i), which prohibits the Commonwealth from introducing a refusal into evidence in a DUIA prosecution (except in rebuttal).

Subsection (d1) has been changed to allow for the possibility that four 7-ml tubes of blood would be used in DUID (and possibly DUIA) cases as opposed to the two 15-ml tubes currently used in DUIA arrests. The rationale behind this change is primarily one of ease of collection. Currently, blood must be initially drawn in a syringe or another tube and then transferred to the tubes ("vials" in the statute) supplied by the state. This transfer introduces the possibility of damage or contamination of the specimen, adds a further wrinkle to the chain of custody, and is simply unnecessary. The revision will allow blood to be drawn directly into commercially available blood tubes, which could be sent to the lab without any further handling. Though at this time only four tubes are envisioned as necessary, the revision contains enough flexibility that more (or fewer) tubes could be used if needs change. These tubes would be placed into two cardboard mailing boxes ("containers" in the statute) as is currently done, one to be sent to the Division of Consolidated Laboratory Services and the other retained for 72 hours for optional use by the defendant. The revision allows for the tubes to be "evenly divided" between the two boxes. Though neither the current nor the revised statute specify how much blood is to be drawn, the 30-ml currently obtained for DUIA is expected to be sufficient for DUID as well.

Finally, subsection (d3), which provides for a fee not to exceed \$25 for a blood-alcohol analysis performed by an independent laboratory, does not set a similar limit on the fee for chemical analysis for drug content. Therefore, the provisions of subsection (d3) are expressly limited to the DUIA context.

Figure 7 is a flowchart depicting the mechanics of the proposed implied consent statute.

§18.2-266: The Impaired Driving Offense

The purpose of DUID laws is both to deter persons from driving a vehicle while their faculties are impaired by drugs and to enable law enforcement personnel to apprehend and prosecute persons where deterrence has failed. The reason such laws have been enacted is that drivers whose mental and physical abilities are impaired by drugs are a threat to the safety of both themselves and other drivers. In light of this, a DUID statute should clearly make drug-induced impairment of driving skills the central element of the offense. However, the current language of §18.2-266, which makes it unlawful for any person to drive

KEY

BAC = BLOOD ALCOHOL CONTENT
 COMBINATION = DRUGS + ALCOHOL;
 DUIA + DUID; SEE 18.2-266(IV)

D = DRIVER
 DUIA = DRIVING UNDER THE INFLUENCE OF ALCOHOL; SEE 18.2-266(I),(II)
 DUID = DRIVING UNDER THE INFLUENCE OF A DRUG OR DRUGS; SEE 18.2-266(III)
 IC = IMPLIED CONSENT LAW; SEE 18.2-268

○ = POINT AT WHICH OFFICER MUST MAKE A DECISION

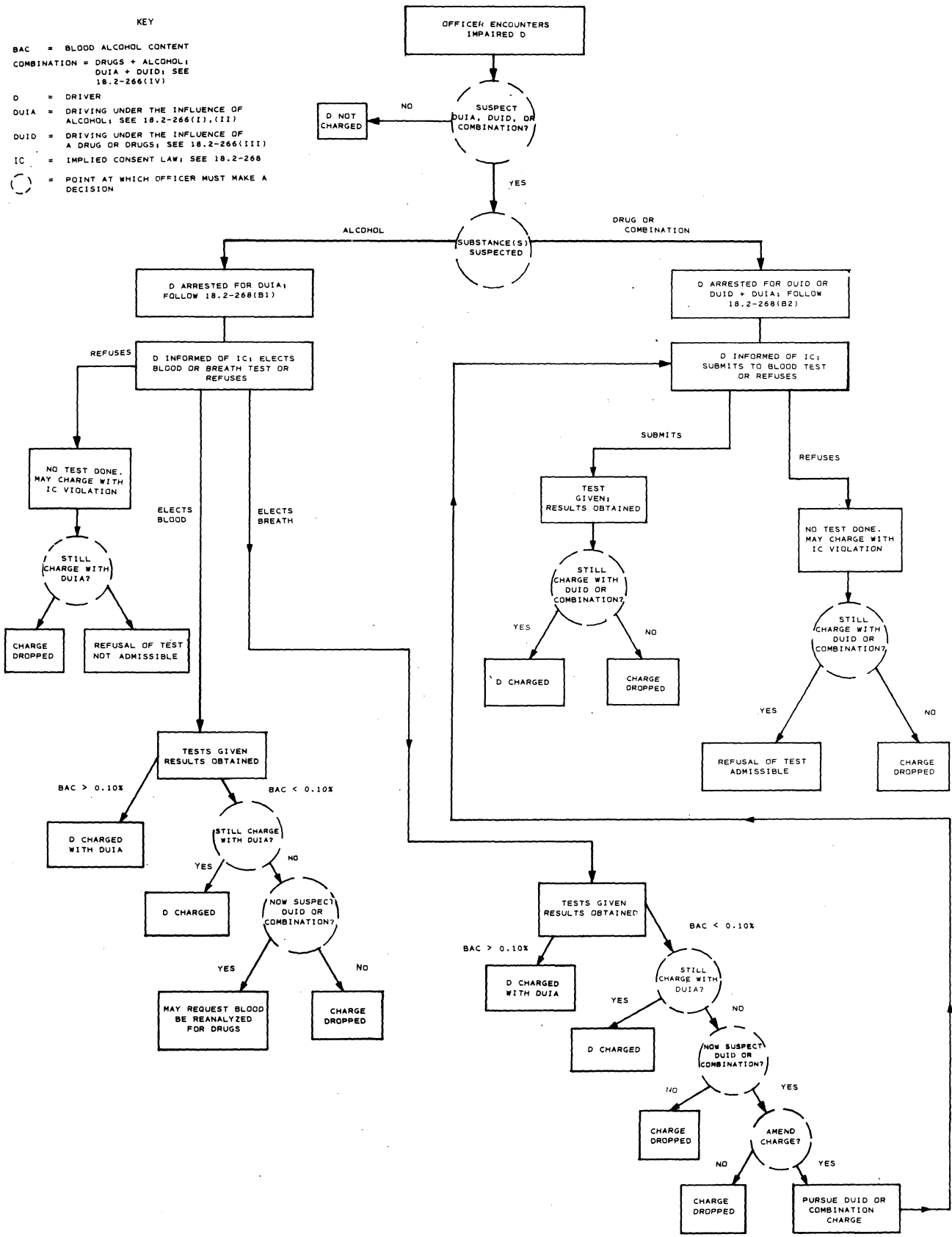


Figure 7. Sequence of events under proposed statutes.

"while under the influence of any narcotic drug or any other self-administered intoxicant or drug of whatsoever nature," leaves that element in question. Because neither case law nor statute defines the phrase "under the influence of [drugs]," it is difficult to determine the degree of impairment which the statute proscribes.

The model for many state DUID offenses is the U.V.C., which prohibits operation of a motor vehicle "while under the influence of any drug...to a degree which renders [one] incapable of safely driving." The problem with this language is the use of the word "incapable," Since impairment of driving skills is the danger involved in the DUID offense, use of the word "incapable" seems to require proof of a more severely impaired individual than is warranted. In contrast, New York makes it "unlawful to operate a motor vehicle while [one's] ability to operate such a motor vehicle is impaired by the use of a drug." Such a definition more accurately reflects the safety objectives of DUID laws.

In addition to clarifying the definition of the offense, use of the "impairment" language is an effective complement to drug testing. If the DUID offense is defined as being under the influence of a drug to a degree which impairs one's ability to drive, observable evidence of impairment at the time of arrest can be combined with chemical evidence of drug consumption to prove the elements of the offense. For example, a hypothetical DUID prosecution could begin with the introduction of test results into evidence. Then, assuming that the test results indicated the presence of barbiturates, an expert in toxicology could testify on the potential impairing effects which barbiturates can have on a person. Some of these effects include drowsiness, slurred speech, and poor motor coordination. The arresting officer could then testify on the unsafe driving behavior which gave rise to the initial stop and the symptoms he observed. Presenting the case in that fashion would support the charge that the driver was under the influence of barbiturates to a degree which impaired his ability to drive safely.

The lack of a "combination offense" in §18.2-266 also needs to be addressed in any effort to make the statute more enforceable. As has been discussed, most drivers who drive under the influence of drugs combine alcohol with their drug consumption. Additionally, the synergistic or additive effects of some combinations may result in a driver being impaired by the combined effects of the substances even though the isolated effects of either the drugs or the alcohol are not sufficient to cause impairment. Thus, it may not be possible to convict the driver of DUIA or DUID. Similarly, a person who has driven under the combined influence of several drugs other than alcohol may be able to argue that the effects of the combination and not the effects of any one drug caused the impairment. Therefore, Virginia needs to add subsections to §18.2-266 to (1) make it an offense to drive under the

influence of a combination of drugs, and (2) make it an offense to drive under the influence of a combination of alcohol and any drug or drugs.

The proposed revision of §18.2-266 is shown in Appendix D. Section 18.2-266(iii) has been rewritten to make it unlawful to drive "while such person is under the influence of any drug or combination of drugs to a degree which impairs his ability to drive safely." Subsection (iv) has been added to make it unlawful to drive "while such person is under the combined influence of alcohol and any drug or drugs to a degree which impairs his ability to drive safely." As used in §18.2-266 and §18.2-268, the term "drug" is defined to mean "any controlled substance, cannabinoids, or any other self-administered intoxicant or drug of whatsoever nature." Although the current enumeration of substances has been construed by Virginia courts to have a broad scope, the term "narcotic drug" is considered to be unnecessarily narrow for the purpose of the statute. The term was included in the statute in 1926, and it technically means only opiates, which are but one class of substances. The recommended revision uses "controlled substance" and "cannabinoids" instead. "Controlled substance" includes many potentially dangerous drugs, as enumerated in Schedules I - VI of the Drug Control Act, Va. Code §§54-524.84:1-13. However, THC as contained in marijuana is excluded by those schedules. See Va. Code §54-524.84:4(d)(17). Although it may be covered by the catch-all provision of Schedule VI (Va. Code §54-524.84:13), the term "cannabinoids" is used to cover the active, potentially impairing substance (THC) produced by marijuana and similar plants, derived therefrom, or chemically similar substances produced synthetically. The phrase "or any other self-administered intoxicant or drug of whatsoever nature" is retained from the original language, because the Virginia Supreme Court's Harrell decision and current enforcement practices have made it comprehensive. As was discussed in Chapter IV, both prescription and nonprescription drugs have been deemed to be within the scope of the statute.

Part C: Sources of Corroborative Evidence

Introduction

Part C is a discussion of methods by which chemical evidence of drug usage can be correlated to the observed manifestations of impairment. Even if the suggested legal reforms are made and a drug testing program is implemented, the experiences of other states have shown that the nature of drug testing requires that when a case goes to trial, additional evidence is needed to show impairment. Unlike DUIA cases, where the proven accuracy of blood-alcohol testing has enabled prosecutors to obtain a conviction virtually on the basis of test results alone, exclusive reliance on drug testing will most likely

result in a failed DUID enforcement effort. The states contacted in this study use a variety of mechanisms to demonstrate impairment at the time of the alleged offense. These methods are:

- Expert testimony from a toxicologist on the potential effects of a drug combined with a police officer's testimony, on the physical manifestations of impairment at the time of arrest
- Expert testimony from specially-trained police officers capable of identifying the symptomology of drug-impairment and qualified to testify as to both the potential effects of a drug on behavior and the manifestations of those effects at the time of arrest (the DRE program)
- Expert testimony from a medical doctor based on his evaluation of a suspected DUID offender after arrest
- Videotaped evidence of the driver's behavior at the time of the arrest

Each of the methods is discussed below.

Combined Police/Toxicologist Testimony

Generally. In using the combined testimony of a police officer and a toxicologist, a DUID case is built upon (1) results of drug tests, (2) expert testimony on the drug's pharmacological effects, and (3) nonexpert testimony on the driver's behavior at the time of arrest. The test results identify the source of the impairment; a toxicologist's testimony interprets the test results, explaining the particular drug's pharmacological effects and impact on the ability to perform complex tasks; and the arresting officer's testimony addresses behavior that was indicative of drug impairment.

The problem with such an approach is that the observed evidence of impairment is not introduced by an expert and, therefore, is vulnerable to attack. Unless the arresting officer can qualify as an expert, he cannot testify on whether, in his opinion, the driver's behavior was symptomatic of drug impairment. His testimony is limited to what he observed, which can be effective when his observations correspond to the drug's known effects. However, when the observed symptoms are not clearly the ones which the drug is expected to produce, it may be difficult to prove active influence at the time of arrest. Because many DUID offenders combine drug usage with alcohol consumption, the clinical symptoms of a drug may be masked. Even in non-combination cases, the individualized nature of a person's reaction to a particular drug makes

it possible for a driver to be under a drug's influence even though he does not manifest any of the "typical" symptoms of impairment.

In Delaware, an approach similar to this one is used, but greater emphasis is placed on the results of drug tests. An expert testifies on what the therapeutic concentration of a particular drug in a person's blood is, and then testifies on the effect a dosage in excess of the therapeutic concentration can have on a person's faculties. Although police officer testimony on the person's driving behavior is also used, Delaware prosecutors report that the case usually turns on the drug concentration of the person's blood as compared to known therapeutic concentrations. The advantage of such a system is that it fits neatly into the DUIA pattern, where a BAC in excess of 0.10% is presumptive of intoxication. The problems, however, are twofold: (1) there is not enough information available to identify therapeutic concentrations of all classes of drugs, and (2) although a supra-therapeutic dosage of a drug may cause impairment, the phenomenon of tolerance makes it difficult to identify the point at which impairment is attained. Because of these factors, the Delaware approach would not be recommended as a principal means of showing drug-impairment.

Application to Virginia. The discussion of chemical testing in Part I of this chapter indicated that test results can be combined with toxicologist and police testimony to show impairment of driving ability. Under the procedures recommended in that section, a blood sample would be withdrawn from a suspect and analyzed for drug content. Until drug testing has been well established in Virginia courts, experts would be necessary to interpret the results of the test. The Division of Consolidated Laboratory Services has indicated that staff toxicologists are capable of performing this function.

As was discussed in Chapter IV, police officers in Virginia generally are not well trained in the symptomology of drug-impairment. As a result, most officers would not qualify as experts and their testimony would be limited to their observations of the driver. Additionally, their lack of expertise makes it hard for them to identify the more subtle signs of drug impairment. For this reason, it is recommended that Virginia police officers be given thorough training in the identification of drug-impaired drivers. The Department of Criminal Justice Services, which administers training centers for local police forces, has indicated that improved DUID training could be incorporated into the DUIA curriculum at no additional cost. At present, trainees do receive some training in the identification of illegal substances and the symptomology of drug impairment as it applies to drug offenses. Although this training is not carried over into DUI instruction, it provides officers with a good background for DUID training. Therefore, the Department believes that its curriculum on impaired driving could be

modified to include a section on the drug-impaired driver. Additionally, the refresher courses which in-service officers must take every two years are flexible enough to accommodate DUID instruction. Although the inclusion of basic DUID instruction in the training of Virginia police officers would probably not enable them to qualify as experts in court, it would enhance the value of their testimony in a DUID trial. Additionally, improved training would allow officers to identify drivers who are not obviously impaired and might otherwise avoid detection.

By combining drug test results with testimony from an expert in toxicology and a trained but nonexpert police officer, Virginia prosecutors would have the capacity to prosecute DUID offenders when a case does go to trial. Although the nonexpert nature of an officer's testimony might leave the prosecution's case vulnerable to attack, the defendant would still face at least a significant risk of conviction. In other states, the risk of harsher penalties for those who go to trial and are convicted persuades the majority of DUID offenders to plead guilty in the face of positive test results. Thus, it is anticipated that the drawbacks associated with the nonexpert nature of a police officer's testimony and the need for toxicologists at trial would be offset by the fact that many, if not most, cases would not even go to trial.

A DRE Program

Generally. Those committee members who travelled to Los Angeles to evaluate the DRE program there unanimously agreed that it was an extremely successful method of DUID enforcement. Additionally, NHTSA has identified that program as the most effective DUID enforcement effort in the United States. The key to the success of the DRE program is that it puts an expert in drug recognition and symptomology on the scene at or near the time of arrest. Because they are experts as well as police officers, they can fill the role of both the toxicologist and the law enforcement officer in a DUID trial. The DRE program, therefore, enjoys two benefits that no other program has: (1) DREs can confidently identify a drug-impaired driver without the use of chemical tests, thereby making in-the-field identification possible, and (2) there is no need for a toxicologist or other expert to testify on the pharmacological effects of a drug, since a DRE knows the symptoms of drug impairment and is qualified to offer an expert opinion as to whether or not the driver was under the influence of a drug or drugs. The competence of the DREs was made apparent in a recent NHTSA evaluation which found that in a clinical setting, officers correctly identified persons under the influence of drugs in 98.7% of the cases and correctly identified the type of drug in 91.7% of the cases. When a

DRE's report is combined with drug test results that corroborate the officer's opinion, the prosecution has a virtually irrefutable case that induces most DUID offenders to plead guilty.

Application to Virginia. In Virginia, a DRE program would alleviate the problems caused by the lack of police officer expertise and would be the most effective source of evidence to correlate positive blood test results to the behavior observed at the time of arrest. The ability of a DRE to identify the less obvious signs of drug-impairment (such as Gaze Nystagmus, altered pupil size, etc.) would enable police to detect DUID offenders who might not otherwise be identified. Additionally, the combined use of chemical tests for drug content and a DRE evaluation would give the prosecution a very strong case, thereby persuading many offenders to plead guilty rather than go to trial.

Despite its proven effectiveness, a statewide DRE program would not be appropriate in Virginia at the present time. While the program has been highly successful in Los Angeles, much of that success can be credited to the efforts of one or two dedicated individuals working within a relatively small geographic area. It has remained a closely knit unit, with many of the officers being hand-picked by the directors. Furthermore, the population and culture of Los Angeles provide the DREs with enough DUID experience to both keep their skills honed and keep up with the influx of new drugs. Efforts to implement a DRE program on a statewide basis in California and Arizona have been much less successful than has the Los Angeles experience. To assure that officers adhere to the high standards necessary to maintain their expert status, strong program management with close supervision is essential. Such supervision is difficult to maintain on a statewide basis. Additionally, officers must be motivated to accept the overtime hours, numerous court appearances, and intensive training. In Arizona, a lack of administrative support and program-wide motivation effectively killed an experimental DRE program. Even in California, the Highway Patrol has had considerably less success with its statewide program than the LAPD has had in Los Angeles.

Although a statewide DRE program is not recommended for use in Virginia at this time, consideration should be given to the establishment of an experimental program. One option would be to initiate a 40-to-56-hour pilot DRE program under the auspices of the Department of Motor Vehicles/Virginia Alcohol Safety Action Program. Two DRE trainers from the LAPD could be brought to Virginia to conduct the training. Enforcement trainers and officers proficient in DUI detection would be invited to partake in the program. Under the guidelines suggested by the Department of Motor Vehicles, participants in the program would be evaluated in much the same way as is currently done in the Improved Field Sobriety Test research/demonstration projects. Their evaluations of suspected drug-impaired drivers

would be compared to the results of blood tests for drug content to evaluate the accuracy of drug recognition and classification. According to DMV officials, the projected cost for this program would be between \$8,000 and \$10,000.

A second option is to initiate a pilot DRE program with a few local police forces. In areas where DUID is perceived to be a problem and the police department is willing to make the effort to establish a program, DREs could be used on an experimental basis. Because Chief John deKoven Bowen of the Charlottesville Police Department is a member of the HJR 10 Steering Committee, the city of Charlottesville has been suggested as a possible location for a pilot DRE program. The Charlottesville police have been trained in the use of Gaze Nystagmus as a part of that city's DUIA enforcement effort. Additionally, Chief Bowen has been to Los Angeles to observe the DRE program and has shown a strong interest in using a similar program here in Virginia. To initiate the program, two officers could be sent to Los Angeles for two weeks of training with the LAPD. These officers would then be used on an "on-call" basis in Charlottesville, with at least one officer always being available to evaluate a suspected drug-impaired driver. At present, Chief Bowen does not believe that such a pilot program would require additional manpower or excessive overtime, or would significantly impact other activities of the Charlottesville Police Department. The total expected cost for such a program in Charlottesville (including transportation, meals, lodging, compensation, and orientation of Department staff) is estimated to be \$5,000.

Any DRE program that is used in Virginia would serve as a complement to an enforcement program based primarily on the use of a chemical analysis of a person's blood for drug content and nonexpert police officer identification of drug-impaired drivers. Therefore, the Steering Committee recommends that a pilot DRE program not be initiated until the proposed statutory changes are put into effect. A flowchart depicting the role of a DRE in the DUID arrest process is shown in Figure 8.

Medical Expert Testimony

Generally. An alternative to the use of DREs for the evaluation of DUID offenders is the use of medical doctors with expertise in the symptomology of drug impairment. This approach was used in Los Angeles prior to the use of DREs, when a doctor would be on duty at the jail to evaluate DUID suspects and would then testify in court on the manifestations of impairment. Prosecutors made their case in much the same way as is done with the DREs, with drug test results being used to corroborate the doctor's opinion. Los Angeles law enforcement personnel

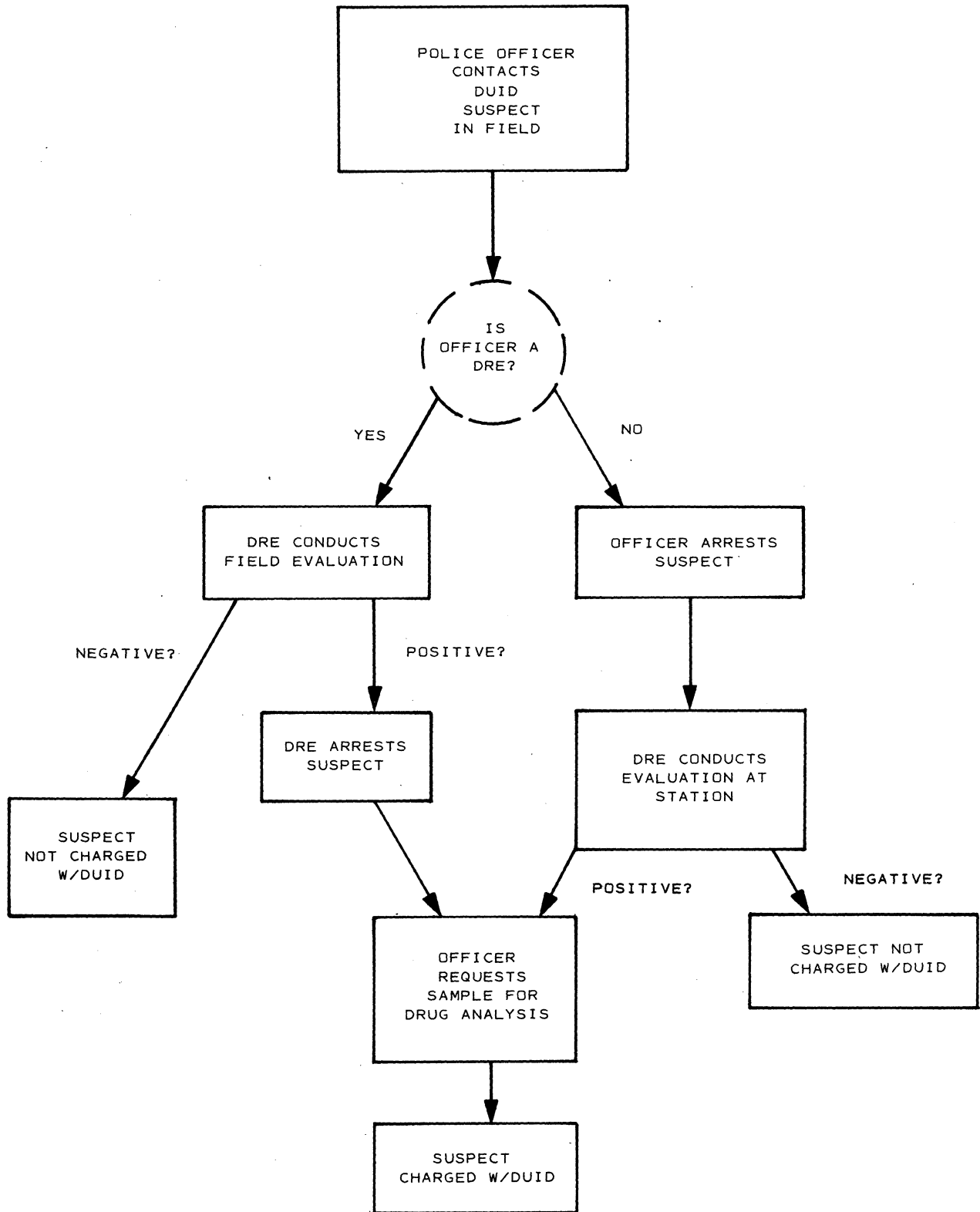


Figure 8. Role of the DRE in the arrest process.

report dissatisfaction with this approach because most doctors were reluctant to spend time in court and, therefore, were unwilling to offer their services.

Application to Virginia. Representatives of the Medical Society of Virginia have indicated that the use of medical experts to evaluate DUID suspects might be possible in Virginia. However, the need to testify in court would be a strong deterrent to participation. Additionally, some doctors would need supplemental training in the symptomology of drug impairment in order to attain expert status. If such a program is seriously considered for use in Virginia, it is recommended that a panel of doctors be convened to discuss its requirements.

Videotaping

Generally. Videotaped evaluations of a driver's behavior at the time of arrest have been very effective in DUIA and DUID prosecutions in Ft. Lauderdale. For cases where videotapes are combined with chemical evidence of impairment, prosecutors report an 85% conviction rate. Because Florida's DUID offense is defined as being "affected to the extent that his normal faculties are impaired," videotaped evidence of a driver's slurred speech, lack of coordination, drowsiness or other obvious manifestations of drug impairment will often convince a judge or jury that the drugs found in a person's bodily fluids caused impairment sufficient to constitute a violation of the statute.

Application to Virginia. In the late 1970s, the city of Staunton, Virginia, experimented with the use of videotapes in DUIA prosecutions. When a DUIA suspect was arrested, tapes were made of his performance on field sobriety tests. After a trial period, the use of videotapes was abandoned because of the prohibitive cost, equipment failure, and a consensus among judges and prosecutors that videotaped evidence is not necessary to a conviction. Specifically, Staunton police found that up to 120 tapes would be tied up in court at one time, which created a constant shortage of blank tapes; that many tapes would not turn out or were of very poor quality; and that the behavior shown on film often did not accurately reflect the driver's condition at the time of arrest because of variations in camera angles, lighting, and other filming conditions.

Since the time of the Staunton experiment, videotaping technology has improved greatly. As a result, many of the problems encountered by the Staunton police might not occur today. However, the difficulty in identifying the symptoms of drug impairment would weigh against the use

of videotaping in DUID prosecutions. As has been discussed, it is very difficult for the untrained police officer to confidently identify a drug-impaired driver. It is probably at least as difficult for a judge or jury to be convinced, "beyond a reasonable doubt," that the behavior shown in a videotape is indicative of drug impairment. Many signs of drug impairment are not as readily identifiable as those of alcohol intoxication, and a judge or jury expecting to see behavior similar to that of drunkenness may wrongly believe that a driver was not impaired. Unless a tape shows behavior closely resembling a drug's known pharmacological effects, a judge or jury may be reluctant to convict a person whose driving skills actually are impaired by drugs.

Despite these limitations, some jurisdictions in Florida have successfully used videotaping to allow a judge or jury to evaluate the behavior of a suspected DUID offender and reach a conclusion as to whether or not he was impaired. For this reason, videotaping should not be ruled out as a method by which positive drug test results could be correlated to behavior observed at the time of arrest. However, the drawbacks associated with the use of videotapes require that the Steering Committee not recommend them as the preferred source of corroborative evidence at this time.

Part D: Other Options

The "ADMIT" System

The ADMIT system -- an acronym for the Alcohol and Drug Motorsensory Impairment Test -- may represent an option in drug testing technology. While the device is publicized as being accurate, nonintrusive, and relatively inexpensive, there are virtually no independent data that support these claims. In addition, because the technique has only recently been developed, it is highly unlikely that the results generated by ADMIT will be admissible into evidence in a DUID trial under either the strict majority or more lenient minority test for the admissibility of scientific evidence in court.

The ADMIT device was developed by Dr. S. Thomas Westerman, who had noticed while treating patients with balance problems that different drugs produced distinctive alterations in brain waves. He found that the patterns created by different drugs were unique, like fingerprints, and indicated a change in normal brain functioning. He claimed the system which he developed from these observations could identify both whether a subject is impaired and the type of drug causing the impairment.

The ADMIT system operates by connecting the subject to a microprocessor through a disposable headband device. The computer is programmed to recognize the particular brain wave patterns associated with different substances. The system can produce its analysis within minutes, and can simultaneously display its results on the computer screen and print out a hard copy for a permanent record.

According to the information provided by Pharmometrics Corporation, which markets the device, the ADMIT system has the advantage of being non-invasive and painless, in contrast to conventional testing techniques which require the withdrawal of body fluids. Also, the system is convenient, since it is portable, and does not require trained medical personnel for its operation.

At present, the major defect of the ADMIT system is that it is largely untested in practical application. It has been used by law enforcement officials for purposes of DUID only in Monmouth County, New Jersey. An official from the Monmouth County prosecutor's office said that the use of the device has been temporarily halted due to technical problems. Additionally, the office has never used the ADMIT results in court.

Because the technique is so new and is not being widely used, it is doubtful that its results would be admissible in DUID prosecutions in Virginia. The standard for admissibility of scientific evidence adopted by a majority of states requires that the technique receive general acceptance within the relevant scientific community:

Just when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define. Somewhere in this twilight zone the evidential force of the principle must be recognized, and while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs. Frye v. United States, 293 F. 1013, 1014 (D.C.Cir. 1923).

It is doubtful that a court applying the Frye test would allow the ADMIT results to be introduced into evidence during a DUID trial. ADMIT still represents one of the more recent innovations in drug testing. Further, it has not yet received wide exposure -- not to mention acceptance -- in the scientific community. Until the device receives more extensive applications and until it is subjected to rigorous independent testing of its validity, it will not attain the level of

acceptance necessary to be admitted into evidence in court under the Frye test.

Even under the less restrictive approach adopted by a minority of courts, the results of ADMIT tests will probably not be admissible as evidence. This minority view, known as the "reliability" test, allows scientific evidence to be admissible "if the trial court determines that a foundation as to its reasonable reliability has been made." State v. Kersting, 50 Or.App. 461, 463, 623 P.2d 1095, 1099 (1981). Under this formulation, once the trial court makes the initial determination of the method's reliability, the results are admissible; it is for the jury to determine the weight to be accorded the evidence based on evidence of refutation or disagreement in the scientific community.

Even this more relaxed standard would require competent experts to testify as to the validity of the ADMIT procedure. Given the lack of familiarity with the ADMIT system, particularly outside the immediate geographic areas where it is currently used, it may be difficult to locate experts in Virginia who would be willing to testify in support of the device in evidentiary hearings or in court. Thus, the system probably could not now be used in DUID trials in Virginia.

The ADMIT system may be worth considering for use in Virginia in the future if its reliability is established. However, until it gains more widespread acceptance in the scientific community, it is not a viable alternative to conventional blood or urine testing for use in DUID enforcement in Virginia.

An Alternative to Multiple Testing: The PBT

An alternative to testing for drug content after an evidentiary blood-alcohol test has been given would be to use the preliminary breath test (PBT) authorized under §18.2-267 to screen for DUID offenders. The PBT is a voluntary test administered before a formal DUI arrest is made. Its primary function is to assist a police officer in deciding whether to test further for alcohol impairment, and the results of the PBT are not admissible in court. If §18.2-268 is amended to permit the analysis of blood to determine the presence of drugs, a PBT could be used first to test for alcohol intoxication. Should the results of the PBT show a BAC inconsistent with the apparent level of impairment, the police officer might have cause to make a DUID arrest and conduct a drug test.

The advantage of using the PBT as a DUID screen is that it avoids the apparent "single test" limitation of the current implied consent statute. If the PBT is not considered a test because it is not performed as a part of the implied consent statute, then the drug test performed when drug use is suspected would be the only test given under

§18.2-268. However, the PBT is voluntary and a driver who refuses to submit to one could preclude drug testing unless the arresting officer had strong enough suspicions of drug-impairment to designate a drug test in lieu of a blood-alcohol test. Thus, amendment of §18.2-268 to explicitly authorize multiple tests is much preferred to the use of the PBT as a DUID screen.

Potential General Countermeasures

The technical study also identified areas besides chemical testing which can contribute to decreasing the DUID problem. Among these is the sensitivity of the prescribing physician to the patient's ability to handle a certain drug, and the concomitant explanation of the drug's effects which the patient is given. The clarity of the warning given by the dispensing pharmacy may also be important. Currently, local pharmacies make a decision to put warning labels on potentially impairing drugs on the basis of a pharmacist's or manufacturer's recommendation. Warnings are commonly placed on drugs such as antihistamines, narcotics, or Valium, but apparently there are no federal or state regulations requiring the use of such warnings.

Educational programs through schools and media would heighten public awareness of the dangers of drug-impaired driving and might reduce the incidence of DUID. Finally, controlling the availability of illicit drugs in Virginia would also help stem the problem.

Summary: Strengthening DUID Enforcement in Virginia

Preceding sections of this report have discussed in detail the issues involved in the detection and prosecution of the drug-impaired driver. But whereas the issues are not difficult to identify and discuss, determining the appropriate solution can be considerably more problematic. In part this is because the magnitude of the DUID problem is very difficult to assess. Because there is little DUID enforcement in Virginia at the present time, it is hard to say exactly how many drug-impaired drivers are on the road.

Nevertheless, there is a consensus among law enforcement personnel in Virginia that a significant number of persons do drive under the influence of drugs, and that the great majority of these persons are not detected and prosecuted. As a result, they continue to drive on the roads of the Commonwealth, endangering the safety of both themselves and others. By providing police and prosecutors with the resources necessary to detect and prosecute DUID offenders, the Commonwealth will be able to gauge the magnitude of the problem and adjust its enforcement efforts accordingly. Furthermore, the existence of a workable DUID

enforcement program will significantly increase the deterrent value of Virginia's laws on drug-impaired driving.

The first and most important step the Commonwealth must take to strengthen DUID enforcement is one which will enable Virginia to both identify the drug-impaired driver and bring him within the reach of the law. That step is the inclusion of a drug testing provision in §18.2-268, the implied consent statute. Empowering police to analyze a person's bodily fluids for drugs as well as alcohol would overcome the single greatest obstacle to DUID enforcement under the current law: the inability to show the source of the impairment. Once a mechanism for testing is put into place, a DUID enforcement effort can be built upon it.

The results of this research show that the best testing procedure for Virginia at this time is one that uses blood as the sole specimen of analysis. Although the analysis of blood to determine the presence of drugs in no way approaches the simplicity of blood-alcohol testing, its usefulness for both screening and definitive quantitative analysis makes it the specimen of choice. Additionally, the fact that the Division of Consolidated Laboratory Services has an established procedure for the transportation and processing of blood samples makes its use even more attractive.

Should drug testing be made a part of the implied consent statute and a procedure for analysis be established, additional statutory changes would still be required. In §18.2-268, multiple testing needs to be explicitly provided for, thereby assuring that police will be able to perform a drug analysis after a person has already submitted to a blood-alcohol test. Additionally, a police officer must be allowed to designate the type of specimen to be analyzed in DUID cases so as to prevent a person from evading drug testing by choosing to submit to a breathalyzer. The recommended amendment in Appendix D authorizes a law enforcement officer to require a blood test for drug content in two situations: (1) when police initially suspect drug- or combination alcohol and drug-impairment and desire a drug analysis, and (2) when a person is arrested for DUIA and police do not suspect drug-impairment until after a person has "passed" a blood-alcohol test.

Three additional statutory amendments should be made to the Code of Virginia to make drug testing under the implied consent statute effective. In §18.2-266, the DUID offense should be changed to make it unlawful to drive under the influence of drugs "to a degree which impairs [one's] ability to drive safely." This definition clearly makes impairment of driving skills the gravamen of the offense and enables the Commonwealth to prove its case by combining chemical test results with observed evidence of impairment and unsafe driving. Combination offenses making it unlawful to drive under the combined influence of

alcohol and drugs or the combined influence of multiple drugs other than alcohol should be added to §18.2-266. Adding these offenses to the statute would prevent an impaired driver from being acquitted on the grounds that no one substance alone caused impairment sufficient to constitute a violation of the statute. Finally, a driver's refusal to submit to a drug test should be made admissible in DUID prosecutions because of the critical importance of chemical evidence in these cases.

If the statutory amendments recommended above are made and a procedure for testing and analyzing a person's blood for drug content is established, Virginia would have the capacity to detect and prosecute the drug-impaired driver. Toxicologists from the Division of Consolidated Laboratory Services could interpret test results, and a police officer's testimony on observed behavior at the time of arrest could be used to try to correlate the behavior with positive test results. If Virginia police officers are given improved training in the identification of drug-impaired drivers, the prosecution would be able to make a strong case. Although the nonexpert nature of an officer's testimony would leave it subject to attack, the existence of positive test results, especially where a person is found to have illegal substances in his system, would often persuade a person to plead guilty and thereby avoid a trial. In some states which permit the chemical analysis of a person's bodily fluids for drug content and prosecute DUID offenders, the majority of convictions are obtained without going to trial.

The most effective method of DUID enforcement would be one that combines the use of Drug Recognition Experts and drug testing. Because of their expertise, DREs can detect the drug-impaired driver without chemical testing and render an opinion on drug-impairment in court. When the results of chemical tests corroborate the DRE's opinion, the state has an extremely persuasive case. However, the problems the DRE program has encountered when used on a statewide basis and the uncertain magnitude of the DUID problem in Virginia weigh against its implementation statewide. Nevertheless, the proven effectiveness of the program warrants its consideration on an experimental basis. Should the program turn out to be successful, expansion could be considered.

For the reasons discussed earlier, videotaping of a DUID suspect's behavior at the time of arrest is not recommended at the present time. Additionally, the use of medical experts to evaluate DUID offenders and testify in court may be possible in Virginia, but not without further study. Two other options in DUID enforcement -- using the preliminary breath test to screen for drug-impaired drivers and using the ADMIT to test for impairment -- are not now recommended for use. Several other countermeasures, including the use of clear warnings by physicians dispensing prescription drugs, education of the driving public, and controlling the supply of illicit drugs in Virginia, are worthy of mention but are not included in the recommendations of this report.

CHAPTER VI
RECOMMENDATIONS

1. Amend the implied consent law (§18.2-268) to permit chemical testing of a person's blood to determine the presence of drugs other than alcohol.

The officer may designate the type of specimen in a DUID case. Multiple testing is allowed whenever an officer develops cause to suspect drug impairment, enabling him to perform a drug test after a person has already submitted to a blood-alcohol test. Refusal to submit to a test for drugs is admissible in a DUID case. Blood specimen collection and handling remains the same as the methods currently used.

This recommendation is explained in detail in Chapter V, Part B.

For the full text of the statutory changes, see Appendix D.

The cost of the recommended testing methods is described in Appendix B.

2. Amend the impaired-driving law (§18.2-266) to define the offense as being under the influence of drugs "to a degree which impairs [one's] ability to drive safely."

The term "drug" is defined as "any controlled substance, cannabinoids, or any other self-administered intoxicant or drug of whatsoever nature." Also included are "combination offenses" which prohibit the operation of a motor vehicle while under the influence of a combination of drugs other than alcohol or a combination of drugs and alcohol.

This recommendation is explained in detail in Chapter V, Part B.

For the full text of the statutory changes, see Appendix D.

According to law enforcement agencies, this change could be instituted at no additional cost because arrests under the revised statute would be handled within existing resources.

3. The analytical procedures suggested by Dr. Blanke's technical study are recommended for use.

At this time, quantitative analysis of blood using a combination of radioimmunoassay and gas chromatography/mass spectrometry techniques is recommended. A list of drugs to be tested for appears in Chapter V.

This recommendation is explained in detail in Chapter V, Part A.

The cost of the recommended testing program is described in Appendix B.

4. Provide Virginia police officers with improved training in the detection of drug-impaired drivers.

The current training police officers receive in the identification of drug users should be extended to the DUI curriculum as well. Implementation of this recommendation would aid officers in the identification of drug-impaired drivers and would enhance the value of an officer's testimony in a DUID trial.

This recommendation is explained in detail in Chapter V, Part C.

According to the Department of Criminal Justice Services, such a change could be included in both basic and in-service training at no additional cost.

5. Implement a pilot Drug Recognition Expert program, once the recommended statutory changes have been put into effect.

Two possible pilot programs are suggested:

- (a) DRE trainers from the LAPD would be brought

in to instruct Virginia police officers in the evaluations used by the Los Angeles DREs. Trainees would be evaluated in much the same way as is currently done in the Improved Field Sobriety Test research/demonstration projects. The cost for this program is estimated to be between \$8,000 and \$10,000.

(b) Pilot DRE programs would be established in selected localities. For example, the city of Charlottesville has been suggested as one possible location because of the high level of DUI training which its police officers receive. Two Charlottesville officers would be sent to Los Angeles for two weeks of DRE training. The cost for such a program in Charlottesville is estimated to be \$5,000.

This recommendation is explained in detail in Chapter V, Part C.

HOUSE JOINT RESOLUTION NO. 10

Requesting the Division of Motor Vehicles to develop procedures for detecting and prosecuting persons illegally driving under the influence of any narcotic or other self-administered drug.

Agreed to by the House of Delegates, March 8, 1984

Agreed to by the Senate, March 6, 1984

WHEREAS, many persons illegally operate motor vehicles in the Commonwealth of Virginia while under the influence of narcotic or other self-administered drugs which affect their driving behavior; and

WHEREAS, there are currently no procedures designed to cover detection and prosecution of such action; and

WHEREAS, the State of Florida in 1982 and the State of California in 1983 enacted legislation establishing procedures to detect, prosecute and convict persons who drive while under the influence of narcotic or other self-administered drugs; and

WHEREAS, several other states are currently considering similar legislation; and

WHEREAS, it seems most reasonable that the General Assembly of Virginia should receive appropriate scientific and technical guidance in enacting legislation of this type; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Division of Motor Vehicles, assisted by the Chief Medical Examiner, the Department of State Police, the Division of Consolidated Laboratories, the Attorney General's Office, and any other local, state or national organization, as needed, is requested to study and develop effective and practical procedures for detecting and prosecuting persons illegally driving under the influence of any narcotic or other self-administered drug. The Division of Motor Vehicles shall use, for this purpose, funds available from the United States Department of Transportation.

The Division of Motor Vehicles is further requested to complete this work and report its findings to the General Assembly of Virginia prior to its 1986 Session.

APPENDIX B
COST ESTIMATES FOR CHEMICAL TESTING

This Appendix analyzes the estimated costs of implementing a laboratory drug testing program to support DUID enforcement. Cost estimates in labs already processing DUID samples range from \$25 to \$170 per sample analyzed. These figures are directly related to the type of specimen tested, the number of samples tested, the scope of the drug screen, and the sophistication of the analytical techniques used. The low range figures are for labs doing urine tests or qualitative tests only, while the high range is for blood tests and quantitative analyses. These latter estimates are consistently in the \$150 to \$170 range. As shown below, the cost estimates for DUID testing in Virginia are within this latter price range.

These estimates are based on the option recommended for Virginia. This involves using blood samples and analyzing them by a combination of RIA and GC/MS techniques. The estimates were developed originally by Dr. Blanke's study. Since Dr. Blanke estimated the cost of starting from scratch, some modification was needed because the Division of Consolidated Laboratory Services (DCLS) already has some equipment that can be used in DUID sample analysis. Thus, these figures result from a DCLS review of Dr. Blanke's budget, with modifications made according to DCLS needs and standard practices.

Since any estimate depends on the number of samples processed, these figures are dependent on the number of DUID arrests expected. Because that number is hard to estimate (see Chapter II), a high and a low estimate are given. The high figure is based on an assumption that all persons with less than a 0.10% BAC will be tested for drugs, and the low figure is discounted from that since drug symptoms will probably not be apparent in all those suspects.

A figure for the cost of the DCLS's certification of labs to perform independent analyses for defendants at the defendant's initiative, as required by §18.2-268(d1), is not included. This is because the DCLS believes that expense can be covered by the estimated budgets below, with no separate additional cost.

ESTIMATED COSTS

FIXED COSTS

Description	Unit Cost	Number Needed 2000/4000	Total Cost per Year	
			2000 samples	4000 samples
<u>Analytical Instruments (Capital Equipment)</u>				
GC/MS*	\$75,000	1/1	\$75,000	\$75,000
Gamma Counter	30,000	1/1	30,000	30,000
Centrifuge*	4,000	0/1	0.0	4,000
Dispenser*	3,000	0/1	0.0	3,000
GC/NPD	30,000	1/1	30,000	30,000
Data Computer*	10,000	0/1	0.0	10,000
Subtotal:			<u>\$135,000</u>	<u>\$152,000</u>
 <u>Storage Facilities</u>				
At this time, DCLS has adequate freezer space.				
 <u>Laboratory Equipment</u>				
All glassware	\$ 5,000	1/1	\$ 5,000	\$ 5,000
Extraction devices	\$ 3,000	1/1	3,000	3,000
Evaporation devices*	--	-/-	2,000	5,000
Subtotal:			<u>\$10,000</u>	<u>\$13,000</u>
TOTAL FIXED COSTS (LESS FACILITIES)**			\$145,000	\$165,000

Estimated Costs (continued)

VARIABLE (ANNUAL) COSTS

Description	Unit Cost	Number Needed 2000/4000	Total Cost per Year	
			2000 samples	4000 samples
<u>Salaries(Including 30% for fringe benefits)</u>				
1 chemist and 2 chemist assistants		-/-	\$90,000	00.0
1 chemist and 3 chemist assistants		-/-	00.0	\$116,000
Subtotal			<u>\$90,000</u>	<u>\$116,000</u>
<u>Laboratory Expenses</u>				
GC columns	\$ 500	4/4	\$ 2,000	\$ 2,000
Immunoassay kits	\$4,000	5/10	20,000	40,000
Vacutainers (blood tubes)	-	-/-	3,000	6,000
Printed material	-	-/-	500	500
Personnel training	-	-/-	2,000	2,000
Maintenance contracts	-	-/-	15,000	15,000
Solvents, chemicals, supplies	-	-/-	10,000	20,000
Transportation	-	-/-	10,000	10,000
Research and development	-	-/-	5,000	5,000
Subtotal			<u>\$ 67,500</u>	<u>\$ 100,500</u>
TOTAL VARIABLE (ANNUAL) COSTS:			\$ 157,500	\$ 216,500
TOTAL START-UP COSTS (LESS FACILITIES)**			\$ 302,500	\$ 381,500
START-UP COST RANGES INCLUDING FACILITIES COSTS**			\$ 402,500	\$ 481,500
			to	to
			\$ 597,500	\$ 676,500

EXTRA COSTS FOR DOING MARIJUANA TESTING

FIXED COSTS

Description	Unit Cost	Number Needed 2000/4000	Total Cost per Year	
			2000 samples	4000 samples
<u>Analytical Instruments (Capital Equipment)</u>				
GC/MS* (MSD)	\$75,000	1/1	\$75,000	\$75,000
GC/NPD (GC/ECD)	\$25,000	1/1	25,000	25,000
Subtotal:			<u>\$100,000</u>	<u>\$100,000</u>
<u>Laboratory Equipment</u>				
All glassware	\$ 2,000	1/1	\$ 2,000	\$ 2,000
Extraction devices	\$ 1,000	1/1	1,000	1,000
Evaporation devices*	\$ 2,000	-/-	2,000	2,000
Subtotal:			<u>\$5,000</u>	<u>\$5,000</u>
TOTAL ADDITIONAL FIXED COSTS:			\$105,000	\$105,000

Costs for Marijuana Testing (continued)

VARIABLE (ANNUAL) COSTS

Description	Unit Cost	Number Needed 2000/4000	Total Cost per Year	
			2000 samples	4000 samples

Salaries(Including 30% for fringe benefits)

Chemist	\$31,500	1/2	\$31,500	\$73,000
Subtotal			\$31,500	\$73,000

Laboratory Expenses

GC columns	\$ 500	2/-	\$ 1,000	--
Immunoassay kits	\$4,000	2/-	8,000	--
Personnel training	-	-/-	1,000	--
Maintenance contracts	-	-/-	10,000	--
Solvents, chemicals, supplies	-	-/-	5,000	--
Research and development	-	-/-	2,500	--
Subtotal			\$ 27,500	\$34,000(+)

TOTAL ADDITIONAL VARIABLE (ANNUAL) COSTS: \$ 59,000 \$ 107,000

TOTAL EXTRA COSTS \$ 164,000 \$ 212,000

(+)Laboratory Expenses are not itemized for 4,000 samples.

NOTES

*DCLS already has some of this equipment.

**Facilities:

Although technically a part of fixed costs, the discussion of costs of facilities needed has been reserved to the end because no firm figure for the cost of remodeling and new facility construction can be given without some explanation. DCLS plans to process DUID samples at its Richmond location. Since some toxicology work in other areas already takes place at that location, it is desirable to combine facilities. However, space there is limited. There are several ways to obtain the space that will be needed:

1. Remodel current lab and add some new space, by either (a) constructing an addition or outbuilding, (b) bringing in a prefabricated "mobile-home" type building, or (c) renting. Remodeling will cost about \$20,000 and the additional space anywhere from \$80,000 to \$275,000, depending upon what is selected.
2. It may be possible to accommodate all needs by extensive remodeling of the Richmond facility. This will cost \$100,000 to \$275,000, depending on what is selected.
3. Thus the overall facilities needed are expected to cost anywhere from \$100,000 to \$295,000.

The facility needs are expected to be roughly the same whether 2,000 samples/year or 4000 samples/year are processed.

APPENDIX C
STATE DUID LAWS

ALABAMA (Code of Alabama)

§32-519-191(a): "A person shall not drive or be in actual physical control of any vehicle while:

(3) Under the influence of a controlled substance to a degree which renders him incapable of safely driving; or

(4) Under the combined influence of alcohol and a controlled substance to a degree which renders him incapable of safely driving;

(5) Under the influence of any substance which impairs the mental or physical faculties of such person to a degree which renders him incapable of safely driving".

ALASKA (Alaska Statutes)

§28.35.030(a): A person commits the crime of driving while intoxicated if the person operates or drives a motor vehicle . . .

(1) While under the influence of intoxicating liquor, or any controlled substance . . .

(2) While the person is under the combined influence of intoxicating liquor and another substance".

ARIZONA (Arizona Revised Statutes Annotated)

§28-692(L): "It is unlawful . . . for any person who is under the influence of any drug to a degree which renders him incapable of safely driving a vehicle to drive a vehicle within this state".

ARKANSAS (Arkansas Statutes Annotated)

§75-2503(a): It is unlawful . . . for any person who is intoxicated to operate or be in actual physical control of a motor vehicle.

§75-2502(a) defines "intoxicated" as "influenced or affected by the ingestion of alcohol, a controlled substance, or a combination thereof, to such a degree that the driver's reactions, motor skills, and judgment are substantially altered and the driver, therefore, constitutes a clear and substantial danger of physical injury or death to himself and other motorists or pedestrians".

CALIFORNIA (Annotated California Code)

§25152(a): "It is unlawful for any person who is under the influence of an alcoholic beverage or any drug, or the combined influence of an alcoholic beverage and any drug, to drive a vehicle".

§312 defines "drug" as "any substance or combination of substances, other than alcohol, which could so affect the nervous system, brain, or muscles of a person as to impair, to an appreciable degree, his ability to drive a vehicle in the manner that an ordinarily prudent and cautious man, in full possession of his faculties, using reasonable care, would drive a similar vehicle under like conditions."

COLORADO (Colorado Revised Statutes)

§42-4-1202(II)(d)(I) makes it an offense "for any person to drive any vehicle in this state while such person's ability to operate a vehicle is impaired by the use of a controlled substance . . . or any other drug.

§42-4-1202(II)(d)(II) includes "glue-sniffing, aerosol inhalation, or the inhalation of any other toxic vapor" within the scope of the DUID offense.

CONNECTICUT (Connecticut General Statutes Annotated)

§14-227(a): "No person shall operate a motor vehicle . . . while under the influence of intoxicating liquor or any drug or both."

DELAWARE (Delaware Code Annotated)

§4177(a) "No person shall drive, operate, or have in actual physical control a vehicle . . . while under the influence of alcohol or any drug or combination of drugs and/or alcohol."

FLORIDA (Florida Statutes Annotated)

§316.193(1)(a) makes it unlawful for "[a]ny person who is under the influence of alcoholic beverages, any chemical substance . . . or any substance controlled . . . when affected to the extent that his normal faculties are impaired, to drive or be in actual physical control of any vehicle within this state."

GEORGIA (Official Code of Georgia Annotated)

§40-6-391(a): "A person shall not drive or be in actual physical control of any moving vehicle while:

(2) Under the influence of any drug to a degree which renders him incapable of driving safely.

(3) Under the combined influence of alcohol and any drug to a degree which renders him incapable of driving safely."

HAWAII (Hawaii Revised Statutes)

§291-7: "Whoever operates any vehicle while under the influence of any drug to a degree which renders him incapable of operating the vehicle in a careful and prudent manner shall be [guilty of an offense]."

IDAHO (Idaho Code)

§18-8004(5): "It is unlawful for any person who is . . . under the influence of any other drug or any combination of alcohol and any drug to a degree which renders him incapable of safely driving a motor vehicle to drive . . ."

ILLINOIS (Illinois Annotated Statutes)

§11-501(a): " A person shall not drive or be in actual physical control of any vehicle . . .while:

(3) Under the influence of any other drug or combination of drugs to a degree which renders such person incapable of safely driving.

(4) Under the combined influence of alcohol and any other drug or drugs to a degree which renders such person incapable of safely driving."

INDIANA (Annotated Indiana Code)

§9-11-2-2: "A person who operates a vehicle while intoxicated commits [an offense]."

§9-11-1-5 defines "intoxicated" as being "under the influence of: (1) alcohol; (2) a controlled substance; (3) any drug other than

alcohol or a controlled substance; or (4) any combination of alcohol, controlled substances, or drugs; such that there is an impaired condition of thought and action and the loss of normal control of a person's faculties to such an extent as to endanger any person."

IOWA (Iowa Code Annotated)

§321.281: "A person shall not operate a motor vehicle . . .

(a) While under the influence of an alcoholic beverage or other drug or combination of such substances."

However, §321.281(7) excludes substances "prescribed for the person" from the scope of the DUID offense.

KANSAS (Kansas Statutes Annotated)

§8-1567(b): "No person shall operate any vehicle within this state if the person is . . . under the influence of any narcotic, hypnotic, semnifacient or stimulating drug or is under the influence of any other drug to a degree which renders such person incapable of safely driving a vehicle."

KENTUCKY (Kentucky Revised Statutes Annotated)

§189.520(1): "No person under the influence of intoxicating beverages or any substances which may impair one's driving ability shall operate a vehicle . . . anywhere in this state."

LOUISIANA (Louisiana Revised Statutes Annotated)

§14:98(A)(3) prohibits the operation of "any motor vehicle, aircraft, watercraft, vessel, or other means of conveyance when [t]he operator is under the influence of narcotic drugs, central nervous system stimulants, hallucinogenic drugs, or barbiturates."

MAINE (Maine Revised Statutes Annotated)

§1312-B(1): "A person is guilty of a criminal violation . . . if he operates or attempts to operate a motor vehicle:

(A) While under the influence of intoxicating liquor or drugs or a combination of liquor and drugs."

MARYLAND (Transportation Code)

§21-902(C): "(1) A person may not drive or attempt to drive any vehicle while he is so far under the influence of any drug or combination of drugs, or a combination of one or more drugs and alcohol that he cannot drive a vehicle safely."

MASSACHUSETTS (Massachusetts General Laws Annotated)

Chapter 90 §24(1)(a)(1) makes it an offense for a person to "operate a motor vehicle while under the influence of intoxicating liquor, or of marijuana, narcotic drugs, depressants, or stimulant substances, . . . or the vapors of glue . . ."

MICHIGAN (Michigan Compiled Laws Annotated)

§257.625(1): "A person ... who is under the influence of intoxicating liquor or a controlled substance, or a combination of intoxicating liquor and a controlled substance shall not operate a vehicle..."

MINNESOTA (Minnesota Statutes Annotated)

§169-121(1): "It is a misdemeanor for any person to drive, operate, or be in physical control of any motor vehicle ...

(a) When the person is under the influence of alcohol;

(b) When the person is under the influence of a controlled substance;

(c) When the person is under the influence of a combination of any two or more of the elements named in clauses (a) and (b)"

MISSISSIPPI (Mississippi Code Annotated)

§63-11-30(1): "It is unlawful for any person to drive or otherwise operate a vehicle within this state who:

(b) is under the influence of any other substance which has impaired such person's ability to operate a motor vehicle.

MISSOURI (Annotated Missouri Statutes)

§577.010(1): "A person commits the crime of 'driving while intoxicated' if he operates a motor vehicle while in an intoxicated or drugged condition."

§577.001(2) defines "intoxicated condition" as being "under the influence of alcohol, a controlled substance, or drug, or any combination thereof."

MONTANA (Montana Code Annotated)

§61-8-401 (1): "It is unlawful... for any person who is under the influence of:

(b) a narcotic drug to drive or be in actual physical control of a motor vehicle within this state;

(c) any other drug to a degree which renders him incapable of safely driving a motor vehicle to drive or be in actual physical control of a motor vehicle within this state; or

(d) alcohol and any drug to a degree that renders him incapable of safely driving a motor vehicle to drive or be in actual physical control of a motor vehicle within this state."

NEBRASKA (Revised Statutes of Nebraska)

§39.669.07: "It shall be unlawful for any person to operate or be in actual physical control of any motor vehicle while under the influence of alcoholic liquor or of any drug ..."

NEVADA (Nevada Revised Statutes)

§484.379: "It is unlawful for any person who is ... under the influence of any controlled substance, or is under the combined influence of intoxicating liquor and a controlled substance, or any person who inhales, ingests, applies or otherwise uses any chemical, poison or organic solvent, or any compound or any combination of these, to a degree which renders him incapable of safely driving or exercising actual physical control to drive or be in actual physical control of a vehicle on a highway ..."

NEW HAMPSHIRE (New Hampshire Revised Statutes Annotated)

§265-82(I): "No person shall drive or attempt to drive a vehicle....:

(a) While he is under the influence of intoxicating liquor or any controlled drug or any combination of intoxicating liquor and controlled drugs."

NEW JERSEY (New Jersey Statutes Annotated)

§39:4-50 (a): A person who operates a motor vehicle while under the influence of intoxicating liquor, narcotic, hallucinogenic or habit-producing drugs [commits an offense]"

NEW MEXICO (New Mexico Statutes Annotated)

§66-8-102 (B): "It is unlawful for any person who is ... under the influence of any narcotic drug, or who is under the influence of any other drug to a degree which renders him incapable of safely driving a vehicle, to drive or be in actual physical control of any vehicle within this state."

NEW YORK (Vehicle and Traffic Laws)

§1192(4): "No person shall operate a motor vehicle while his ability to operate such a motor vehicle is impaired by the use of a drug ..." "Drug" is defined as "depressants, hallucinogens, narcotics, and stimulants."

NORTH CAROLINA (General Statutes of North Carolina)

§20-138.1 (a): "A person commits an offense of impaired driving if he drives any vehicle ...

(1) While under the influence of an impairing substance."

NORTH DAKOTA (North Dakota Century Code)

§39-08-01 (1): "A person may not drive any vehicle ... if any of the following apply:

(c) That person is ... under the influence of a narcotic drug."

(d) That person is under the influence of any controlled substance to a degree which renders that person incapable of safely driving.

(e) That person is under the influence of a combination of intoxicating liquor and a controlled substance to a degree which renders that person incapable of safely driving."

OHIO (Ohio Revised Code Annotated)

§4511.19 (A): "No person shall operate any vehicle, streetcar, or trackless trolley within this state if ...

(1) The person is under the influence of alcohol or any drug of abuse, or the combined influence of alcohol and any drug of abuse."

OKLAHOMA (Oklahoma Statutes Annotated)

§11-902: "It is unlawful... for any person to drive, operate, or be in actual physical control of a motor vehicle who:

(3) Is under the influence of any other intoxicating substance to a degree which renders such person incapable of safely driving or operating a motor vehicle; or

(4) Is under the combined influence of alcohol and any other intoxicating substance to a degree which renders such person incapable of safely driving or operating a motor vehicle.

OREGON (Oregon Revised Statutes)

§487-540(1): "A person commits the offense of driving while under the influence of intoxicants if the person drives a vehicle while the person:

(b) Is under the influence of intoxicating liquor or a controlled substance; or

(c) Is under the influence of intoxicating liquor and a controlled substance."

PENNSYLVANIA (Pennsylvania Consolidated Statutes Annotated)

Title 75 §3731(a): "A person shall not drive, operate, or be in actual physical control of the movement of any vehicle while:

(2) Under the influence of any controlled substance ... to a degree which renders the person incapable of safe driving;

(3) Under the combined influence of alcohol and any controlled substance to a degree which renders the person incapable of safe driving"

RHODE ISLAND (General Laws of Rhode Island)

§31-27-2(a): Whoever operates or otherwise drives any vehicle in the state while under the influence of any intoxicating liquor, drugs, toulene or any controlled substance ... or any combination thereof, shall be guilty of a misdemeanor.

SOUTH CAROLINA (Code of Laws of South Carolina Annotated)

§56-5-2930: "It is unlawful for any person who is ... under the influence of intoxicating liquors, narcotic drugs, barbiturates, paraldehydes or drugs, herbs or any other substance of like character, whether synthetic or natural, to drive any vehicle within this State."

SOUTH DAKOTA (South Dakota Compiled Laws Annotated)

§32-23-1: "A person may not drive any vehicle while:

(3) Under the influence of marijuana or any controlled drug or substance to a degree which renders him incapable of safely driving; or

(4) Under the combined influence of an alcoholic beverage and marijuana or any controlled drug or substance to a degree which renders him incapable of safely driving.

TENNESSEE (Tennessee Code Annotated)

§55-10-401 (a): "It shall be unlawful for any person or persons to drive ... while under the influence of any intoxicant, marijuana, narcotic drug, or drug producing stimulating effects on the central nervous system." "Drugs" are defined to include "the salts of barbituric acid, also known as malonyl urea, or any compound, derivatives, or mixtures thereof that may be used for producing hypnotic or somnifacient effects, and includes amphetamine, desoxyephedrine or compounds or mixtures thereof, including all derivatives of phenylethylamine or any of the salts thereof, except preparations intended for use in the nose and unfit for internal use."

TEXAS (Texas Codes Annotated)

Art. 6701(1)-1(b): "A person commits an offense if the person is intoxicated while driving or operating a motor vehicle in a public place."

Art. 6701 (1)-1(a)(2)(A) defines "intoxicated" as "not having the normal use of mental or physical faculties by reason of the introduction of alcohol, a controlled substance, a drug, or a combination of two or more of those substances into the body."

UTAH (Utah Code Annotated)

§41-6-44: "It is unlawful ... for any person ... who is under the influence of any drug or the combined influence of alcohol and any drug to a degree which renders the person incapable of safely driving a vehicle, to drive or be in actual physical control of any vehicle within this state.

VERMONT (Vermont Statutes Annotated)

Title 23 §1201(a): "A person shall not operate, attempt to operate, or be in actual physical control of any vehicle on a highway while:

(3) under the influence of any other drug or under the combined influence of alcohol and any other drug to a degree which renders him incapable of driving safely."

VIRGINIA (Code of Virginia)

§18-2-266: "It shall be unlawful for any person to drive or operate any motor vehicle, engine or train ... while such person is under the influence of any narcotic drug or any other self-administered intoxicant or drug of whatsoever nature."

WASHINGTON (Revised Code of Washington Annotated)

§46-61-502: "A person is guilty of driving while under the influence of intoxicating liquor or any drug if he drives a vehicle within this state while:

(2) He is under the influence of or affected by intoxicating liquor or any drug; or

(3) He is under the combined influence of or affected by intoxicating liquor and any drug.

WEST VIRGINIA (West Virginia Code)

§17C-5-2 makes it an offense to drive a vehicle:

(B) Under the influence of any controlled substance, or

(C) Under the influence of any other drug, or

(D) Under the combined influence of alcohol and any controlled substance or any other drug."

WISCONSIN (Wisconsin Statutes Annotated)

§346.63(1): "No person may drive or operate a motor vehicle while:

(2) Under the influence of an intoxicant or a controlled substance or a combination of an intoxicant and a controlled substance, under the influence of any other drug to a degree which renders him or her incapable of safely driving, or under the combined influence of an intoxicant and any other drug to a degree which renders him or her incapable of safely driving."

WYOMING (Wyoming Statutes)

§31-5-233(c): "It is unlawful for any person who is under the influence of any controlled substance or under the combined influence of alcohol and any controlled substance, to a degree which renders him incapable of safely driving a vehicle, to drive a vehicle within this state.

UNIFORM VEHICLE CODE

§11-902 (a) " A person shall not drive or be in actual physical control of any vehicle while:

(3) Under the influence of any other drug or combination of other drugs to a degree which renders him incapable of safely driving; or

(4) Under the combined influence of alcohol and any other drug or drugs to a degree which renders him incapable of safely driving."

APPENDIX D
PROPOSED REVISIONS IN §§18.2-266 AND 18.2-268

Article 2.

Driving Motor Vehicle, etc., While Intoxicated

§18.2-266. Driving motor vehicle, engine, etc., while intoxicated, etc. -- It shall be unlawful for any person to drive or operate any motor vehicle, engine or train (i) while such person has a blood alcohol concentration of 0.15 percent or more by weight by volume as indicated by a chemical test administered in accordance with the provisions of §18.2-268, or (ii) while such person is under the influence of alcohol, or ~~(iii) while such person is under the influence of any narcotic drug or any other self-administered intoxicant or drug of whatsoever nature.~~ (iii) WHILE SUCH PERSON IS UNDER THE INFLUENCE OF ANY DRUG OR COMBINATION OF DRUGS TO A DEGREE WHICH IMPAIRS HIS ABILITY TO DRIVE SAFELY, OR (iv) WHILE SUCH PERSON IS UNDER THE COMBINED INFLUENCE OF ALCOHOL AND ANY DRUG OR DRUGS TO A DEGREE WHICH IMPAIRS HIS ABILITY TO DRIVE SAFELY. For the purposes of this section, the term "motor vehicle" shall include mopeds, while operated on the public highways of this Commonwealth. AS USED IN THIS SECTION AND IN §18.2-268, THE TERM "DRUG" MEANS ANY CONTROLLED SUBSTANCE, CANNABINOIDS OR ANY OTHER SELF-ADMINISTERED INTOXICANT OR DRUG OF WHATSOEVER NATURE.

§18.2-268. Use of chemical test to determine alcoholic OR DRUG content of blood; procedure; qualifications and liability of person withdrawing blood; costs; evidence; suspension of license for refusal to submit to test; localities authorized to adopt parallel provisions. --(a) As used in this section "license" means any driver's license, temporary driver's license, or instruction permit authorizing the operation of a motor vehicle upon the highways. AS USED IN THIS SECTION "DRUG" MEANS ANY CONTROLLED SUBSTANCE, CANNABINOIDS, OR ANY OTHER SELF-ADMINISTERED INTOXICANT OR DRUG OF WHATSOEVER NATURE.

(b) Any person, whether licensed by Virginia or not, who operates a motor vehicle in this Commonwealth shall be deemed thereby, as a condition of such operation, to have consented to have ~~a sample~~ SAMPLES of his blood AND/or breath taken for ~~a chemical test~~ TESTS to determine the alcoholic AND/OR DRUG content ~~of his blood~~ THEREOF, if such person is arrested for violation of §18.2-266 or of a similar ordinance of any county, city or town within two hours of the alleged offense.

(b1) Any person so arrested FOR DRIVING UNDER THE INFLUENCE OF ALCOHOL shall elect to have either the blood or breath sample taken, but not both. If either the blood test or breath test is not available, then the available test shall be taken. However, it shall not be a matter of defense if the blood test or the breath test is not available. In addition, if the accused elects a breath test, he shall be entitled, upon request, to observe the process of analysis and to see the blood-alcohol reading on the equipment used to perform the breath test. If such equipment automatically produces a written printout of the breath test result, this written printout, or a copy thereof, shall be given to the accused in each case.

(b2) A PERSON, AFTER BEING ARRESTED FOR DRIVING UNDER THE INFLUENCE OF ANY DRUG OR COMBINATION OF DRUGS OR THE COMBINED INFLUENCE OF ALCOHOL AND ANY DRUG OR DRUGS, MAY BE REQUIRED TO SUBMIT TO TESTS TO DETERMINE THE ALCOHOLIC AND/OR DRUG CONTENT OF HIS BLOOD. IF A PERSON, AFTER BEING ARRESTED FOR DRIVING UNDER THE INFLUENCE OF ALCOHOL, CHOOSES TO SUBMIT TO A BREATH TEST IN ACCORDANCE WITH SUBSECTION (B1) OF THIS SECTION, THAT PERSON MAY ALSO BE REQUIRED TO SUBMIT TO TESTS TO DETERMINE THE DRUG CONTENT OF HIS BLOOD IF THE LAW ENFORCEMENT OFFICER HAS REASONABLE CAUSE TO BELIEVE THE PERSON WAS DRIVING UNDER THE INFLUENCE OF ANY DRUG OR COMBINATION OF DRUGS OR THE COMBINED INFLUENCE OF ALCOHOL AND DRUGS. THE FAILURE OF AN ACCUSED TO PERMIT A SAMPLE OF HIS BLOOD TO BE TAKEN PURSUANT TO THIS SUBSECTION SHALL BE ADMISSIBLE IN A PROSECUTION UNDER §18.2-266(iii) OR §18.2-266(iv), PROVIDED THAT THE ACCUSED HAS BEEN ADVISED THAT HIS REFUSAL MAY BE USED AGAINST HIM IN THE TRIAL OF HIS CASE AND HAS BEEN ADVISED OF THE ADDITIONAL CONSEQUENCES OF HIS REFUSAL IN ACCORDANCE WITH SUBSECTION (C).

(c) If a person after being arrested for a violation of §18.2-266 or of a similar ordinance of any county, city or town and after having been advised by the arresting officer that a person who operates a motor vehicle upon a public highway in this Commonwealth shall be deemed thereby, as a condition of such operation, to have consented to have ~~a sample~~ SAMPLES of his blood AND/OR breath taken for ~~a chemical test~~ TESTS to determine the alcoholic AND/OR DRUG content ~~of his blood~~ THEREOF, and that the unreasonable refusal to do so constitutes grounds for the revocation of the privilege of operating a motor vehicle upon the highways of this Commonwealth, then refuses to permit the taking of a sample of his blood, AND/or breath for such tests, the arresting officer shall take the person arrested before a committing magistrate. If he again so refuses after having been further advised by such magistrate of the law requiring ~~a blood AND/or breath test~~ TESTS to be taken and the penalty for refusal, and so declares again his refusal in writing upon a form provided by the Division of Consolidated Laboratory Services (hereinafter referred to as Division), or refuses or fails to so declare in writing and such fact is certified as prescribed in paragraph (j), then no blood or breath ~~sample~~ SAMPLES shall be taken even though he may thereafter request same.

(d) Only a physician, registered professional nurse, graduate laboratory technician or a technician or nurse designated by order of a circuit court acting upon the recommendation of a licensed physician, using soap and water to cleanse the part of the body from which the blood is taken and using instruments sterilized by the accepted steam sterilizer or some other sterilizer which will not affect the accuracy of the test, or using chemically clean sterile disposable syringes, shall withdraw blood for the purpose of determining the alcoholic AND/OR DRUG content thereof. No civil liability shall attach to any person authorized to withdraw blood as provided herein as a result of the act of withdrawing blood from any person submitting thereto, provided the blood was withdrawn according to recognized medical procedures. The foregoing shall not relieve any such person from liability for negligence in the withdrawing of any blood sample.

(d1) ADEQUATE portions of the blood sample so withdrawn shall be placed in ~~each of two~~ vials provided by the Division which vials shall be sealed and labeled by the person taking the sample or at his direction, showing on each the name of the accused, the name of the person taking the blood sample, and the date and time the blood sample was taken. The vials shall be ~~placed in~~ DIVIDED BETWEEN two containers provided by the Division, which containers shall be sealed so as not to allow tampering with the contents. The arresting or accompanying officer shall take possession of the two containers holding the vials as soon as the vials are placed in such containers and sealed, and shall transport or mail one of the ~~vials~~ CONTAINERS forthwith to the Division. The officer taking possession of the other container (hereinafter referred to as the second container) shall, immediately after taking possession of the second container, give to the accused a form provided by the Division which shall set forth the procedure to obtain an independent analysis of the blood in the second container, and a list of those laboratories approved by the Division and their addresses. Such form shall contain a space for the accused or his counsel to direct the officer possessing such second container to forward that container to such approved laboratory for analysis, if desired. The officer having the second container, after delivery of the form referred to in the preceding sentence (unless at that time directed by the accused in writing on such form to forward the second container to an approved laboratory of the accused's choice, in which event the officer shall do so), shall deliver the second container to the chief police officer, or his duly authorized representative, of the county, city or town in which the case will be heard. The chief police officer or his representative upon receiving the same shall keep it in his possession for a period of seventy-two hours, during which time the accused or his counsel may, in writing, on the form provided hereinabove, direct the chief police officer having possession of the second container to mail it to the laboratory of the accused's choice chosen from the approved list. As used in this section, the term "chief police officer" means the sheriff in any county not having a chief of police, the chief of police of any

county having a chief of police, the chief of police of the city or the sergeant or chief of police of the town in which the charge will be heard.

(d2) The testing of the contents of the second container shall be made in the same manner as hereafter set forth concerning the procedure to be followed by the Division, and all procedures established herein for transmittal, testing and admission of the result in the trial of the case shall be the same as for the sample sent to the Division.

(d3) A fee not to exceed twenty-five dollars shall be allowed the approved laboratory for making the analysis TO DETERMINE THE ALCOHOLIC CONTENT of the second blood sample, which fee shall be paid out of the appropriation for criminal charges. If the person whose blood sample was withdrawn is subsequently convicted for violation of §18.2-266, or of a similar ordinance of any county, city or town, the fee charged by the laboratory for testing the blood sample shall be taxed as part of the costs of the criminal case and shall be paid into the general fund of the state treasury.

(d4) If the chief police officer having possession of the second container is not directed as herein provided to mail it within seventy-two hours after receiving the container then the officer shall destroy such container.

(e) Upon receipt of the blood sample forwarded to the Division for analysis, the Division shall cause it to be examined for alcoholic AND/OR DRUG content and the Director of the Division or his designated representative shall execute a certificate which shall indicate the name of the accused, the date, time and by whom the blood sample was received and examined, a statement that the container seal had not been broken or otherwise tampered with, a statement that the container was one provided by the Division and a statement of the alcoholic AND/OR DRUG content of the sample. The certificate attached to the vial from which the blood sample examined was taken shall be returned to the clerk of the court in which the charge will be heard. The certificate attached to the container forwarded on behalf of the accused shall also be returned to the clerk of the court in which the charge will be heard, and, on motion of the accused, such certificate shall be admissible in evidence when attested by the pathologist or by the supervisor of the laboratory approved by the Division.

(f) When any blood sample taken in accordance with the provisions of this section is forwarded for analysis to the Division, a report of the results of such analysis shall be made and filed in that office. Upon proper identification of the vial into which the blood sample was placed, the certificate as provided for in this section shall, when duly attested by the Director of the Division or his designated representative, be admissible in any court, in any criminal or civil proceeding, as evidence of the facts therein stated and of the results of such analysis.

(g) Upon the request of the person whose blood AND/or breath sample was taken for ~~a~~ chemical ~~test~~ TESTS to determine the alcoholic

AND/OR DRUG content of his blood, the results of such test or tests shall be made available to him.

(h) A fee not exceeding ten dollars shall be allowed the person withdrawing a blood sample in accordance with this section, which fee shall be paid out of the appropriation for criminal charges. If the person whose blood sample was withdrawn is subsequently convicted for violation of §18.2-266 or of a similar ordinance of any county, city or town, or is placed under the purview of a probational, educational, or rehabilitational program as set forth in §18.2-271.1, the amount charged by the person withdrawing the sample shall be taxed as part of the costs of the criminal case and shall be paid into the general fund of the state treasury.

(i) In any trial for a violation of §18.2-266 of the Code or of a similar ordinance of any county, city or town, this section shall not otherwise limit the introduction of any relevant evidence bearing upon any question at issue before the court, and the court shall, regardless of the result of the blood AND/or breath test or tests, if any, consider such other relevant evidence of the condition of the accused as shall be admissible in evidence. The failure of an accused to permit a sample of his blood or breath to be taken for a chemical test to determine the alcoholic content of his blood is not evidence and shall not be subject to comment by the Commonwealth at the trial of the case, except in rebuttal; nor shall the fact that a blood or breath test TO DETERMINE THE ALCOHOLIC CONTENT OF HIS BLOOD had been offered the accused be evidence or the subject of comment by the Commonwealth, except in rebuttal.

(j) The form referred to in paragraph (c) shall contain a brief statement of the law requiring the taking of a blood AND/or breath ~~sample~~ SAMPLES and the penalty for refusal, declaration of refusal and lines for the signature of the person from whom the blood AND/or breath sample is sought, the date and the signature of a witness to the signing. If such person refuses or fails to execute such declaration, the committing justice, clerk or assistant clerk shall certify such fact, and that the committing justice, clerk or assistant clerk advised the person arrested that such refusal or failure, if found to be unreasonable, constitutes grounds for the revocation of such person's license to drive. The committing or issuing justice, clerk or assistant clerk shall forthwith issue a warrant charging the person refusing to take the test to determine the alcoholic AND/OR DRUG content of his blood, with violation of this section. The warrant shall be executed in the same manner as criminal warrants. Venue for the trial of the warrant shall lie in the court of the county or city in which the offense of driving under the influence of intoxicants is to be tried.

(k) The executed declaration of refusal or the certificate of the committing justice, as the case may be, shall be attached to the warrant and shall be forwarded by the committing justice, clerk or assistant clerk to the court in which the offense of driving under the influence of intoxicants shall be tried.

(l) When the court receives the declaration of refusal or certificate referred to in paragraph (k) together with the warrant charging the defendant with refusing to submit to having a sample of his blood AND/or breath taken for the determination of the alcoholic AND/OR DRUG content of his blood, the court shall fix a date for the trial of the warrant, at such time as the court shall designate, but subsequent to the defendant's criminal trial for driving under the influence of intoxicants. Upon request, the defendant shall be granted a trial by jury on appeal to the circuit court.

(m) The declaration of refusal or certificate under paragraph (k), as the case may be, shall be prima facie evidence that the defendant refused to submit to the taking of a sample of his blood AND/or breath to determine the alcoholic AND/OR DRUG content ~~of his blood~~ THEREOF as provided hereinabove. However, this shall not be deemed to prohibit the defendant from introducing on his behalf evidence of the basis for his refusal to submit to the taking of a sample of his blood AND/or breath to determine the alcoholic AND/OR DRUG content of his blood. The court shall determine the reasonableness of such refusal.

(n) If the court or jury finds the defendant guilty as charged in the warrant, the court shall suspend the defendant's license for a period of six months for a first offense and for one year for a second or subsequent offense or refusal within one year of the first or other such refusals. The time shall be computed as follows: the date of the first offense and the date of the second or subsequent offense. However, if the defendant pleads guilty to a violation of §18.2-266, or of a similar ordinance of a county, city or town, the court may dismiss the warrant.

(o) The court shall forward the defendant's license to the Commissioner of the Department of Motor Vehicles of Virginia as in other cases of similar nature for suspension of license unless the defendant appeals his conviction. In such case the court shall return the license to the defendant upon his appeal being perfected.

(p) The procedure for appeal and trial shall be the same as provided by law for misdemeanors; if requested by either party, trial by jury shall be as provided in Article 4 (§19.2-260 et seq.) of Chapter 15 of Title 19.2 and the Commonwealth shall be required to prove its case beyond a reasonable doubt.

(q) No person arrested for a violation of §18.2-266 or a similar ordinance of any county, city or town shall be required to execute in favor of any person or corporation a waiver or release of liability in connection with the withdrawal of blood and as a condition precedent to the withdrawal of blood as provided for herein.

(r) The court or the jury trying the case shall be determine the innocence or the guilt of the defendant from all the evidence concerning his condition at the time of the alleged offense.

(rl) Chemical analysis of a person's breath, to be considered valid under the provisions of this section, shall be performed by an

individual possessing a valid license to conduct such tests, with a type of equipment and in accordance with the method approved by the Division. Such breath-testing equipment shall be tested for its accuracy by the Division at least once every six months.

The Division is directed to establish a training program for all individuals who are to administer the breath tests, of at least forty hours of instruction in the operation of the breath-test equipment and the administration of such tests. Upon the successful completion of the training program the Division may issue a license to the individual operator indicating that he has completed the course and is authorized to conduct a breath-test analysis.

Any individual conducting a breath test under the provisions of this section and as authorized by the Division shall issue a certificate which will indicate that the test was conducted in accordance with the manufacturer's specifications, the equipment on which the breath test was conducted has been tested within the past six months and has been found to be accurate, the name of the accused, the date, the time the sample was taken from the accused, the alcoholic content of the sample, and by whom the sample was examined. The certificate, as provided for in this section, when duly attested by the authorized individual conducting the breath test, shall be admissible in any court in any criminal or civil proceeding as evidence of the facts therein stated and of the results of such analysis. Any such certificate of analysis purporting to be signed by a person authorized by the Division shall be admissible in evidence without proof of seal or signature of the person whose name is signed to it. The officer making the arrest, or anyone with him at the time of the arrest, or anyone participating in the arrest of the accused, if otherwise qualified to conduct such test as provided by this section, may make the breath test or analyze the results thereof. A copy of such certificate shall be forthwith delivered to the accused.

(s) The steps herein set forth relating to the taking, handling, identification, and disposition of blood or breath samples are procedural in nature and not substantive. Substantial compliance therewith shall be deemed to be sufficient. Failure to comply with any one or more of such steps or portions thereof, or a variance in the results of the two blood tests shall not of itself be grounds for finding the defendant not guilty, but shall go to the weight of the evidence and shall be considered as set forth above with all the evidence in the case, provided that the defendant shall have the right to introduce evidence on his own behalf to show noncompliance with the aforesaid procedure or any part thereof, and that as a result his rights were prejudiced.

(t) The governing bodies of the several counties, cities and towns are authorized to adopt ordinances paralleling the provisions of (a) through (s) of this section.

