



U.S. Department  
of Transportation  
National Highway  
Traffic Safety  
Administration



FINAL REPORT

# Problems and Solutions in DWI Enforcement Systems

Ralph K. Jones  
John H. Lacey  
Connie H. Wiliszowski

**January 1998**

Prepared for:

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
Washington, D.C. 20590

Contract Number DTNH22-95-C-05022

Mid-America Research Institute, Inc. of New England  
Winchester, Massachusetts

## ACKNOWLEDGMENTS

A system study such as this requires the cooperation and assistance of many persons performing the functions under scrutiny. In this study we were assisted by persons who generously gave their time to help. Some participated in extended telephone conversations about how the DWI control system operated in their jurisdiction. Others helped us during visits to their jurisdictions, describing their operations, and then allowing us to look over their shoulders. An expert panel provided valuable advice and worked hard before, during and after panel meetings to make this product as meaningful as possible.

Three jurisdictions permitted us to conduct on-site case studies. These were Scottsdale, Arizona; Rockdale County, Georgia; and Palm Beach County, Florida. Among those who assisted us in Scottsdale were Assistant City Prosecutor Susanne Bartlett, Police Officer Jeffrey Belford, Hearing Officer Sheila Gooden, and Police Lieutenant Michael Keeley. Sergeant Dave Larson of the Traffic Enforcement Unit coordinated our visit.

In Rockdale County, Sergeant Cliff Miller of the Georgia State Patrol was our guide. District Attorney Cheryl Custer Fisher, Georgia State Patrol Trooper Moses Little, Probation Officer John Manget, Judge William Todd, and Conyers Police Sergeant Mike Waters, among others, generously gave of their time during our visit to Rockdale County.

Our trip to Palm Beach County was arranged by Assistant State Attorney Richard Penalta. Helping us there were Ted Booras, Chief of County Court, State Attorney's Office; Sergeant Patricia Kutlik of the Palm Beach County Sheriff's Office; County Court Judge Susan Lubitz; Circuit Court Judge Mary E. Lupo; Andrea Sheldon of Pride Inc. Probation; and Ann Vincent of the State Attorney's Office, among many others. In each instance, the local coordinators did an outstanding job scheduling our visit and arranging productive meetings. To them we extend a special thanks.

As indicated earlier, the Expert Panel labored tirelessly to provide the best possible input to the project. Panel members were: Rebecca Mead, Investigator, Los Angeles County Probation Department; Sergeant Cliff Miller, Georgia State Patrol; C. Richard Penalta, Assistant State Attorney, Fifteenth Judicial Circuit, Florida; Sergeant Ronnie Roberts, Charlottesville Virginia Police Department; Captain Thomas Walsh, Bureau Chief, New Hampshire Police Standards and Training Council; and William W. Watt, Attorney at Law and former traffic court judge, Little Rock, Arkansas.

To each of these dedicated professionals and the many others who helped with this project we extend our sincere thanks.



# TABLE OF CONTENTS

<b>ACKNOWLEDGMENTS</b>	<b>i</b>
<b>TABLE OF CONTENTS</b>	<b>iii</b>
<b>FIGURES</b> .....	<b>vii</b>
<b>TABLES</b> .....	<b>ix</b>
<b>EXECUTIVE SUMMARY</b>	<b>xi</b>
<b>1 - INTRODUCTION</b>	<b>1</b>
BACKGROUND .....	1
SCOPE AND APPROACH .....	3
ORGANIZATION OF THE REPORT .....	4
<b>2 - THE BASELINE SYSTEM</b>	<b>5</b>
INTRODUCTION .....	5
INFORMATION SOURCES .....	6
<i>Telephone Contacts with System Staff</i> .....	7
<i>Expert Panel Discussions</i> .....	8
<i>Staff Expertise</i> .....	8
RESULTS .....	8
<i>Top Level</i> .....	8
<i>Law Enforcement</i> .....	10
<i>First Level</i> .....	10
<i>Second Level</i> .....	12
<i>Adjudication</i> .....	17
<i>First Level</i> .....	17
<i>Second Level - Administrative</i> .....	19
<i>Second Level - Judicial</i> .....	21
<i>Sanctioning</i> .....	23
<i>First Level</i> .....	23
<i>Second Level - Administrative</i> .....	23
<i>Second Level - Judicial</i> .....	23
MEASURES OF REQUIREMENTS AND PERFORMANCE .....	27
<b>3 - CASE STUDIES OF OPERATING SYSTEMS</b>	<b>37</b>
SELECTION OF CASE STUDY SITES .....	37
CASE STUDY PROCEDURES .....	38

CASE STUDY RESULTS - SCOTTSDALE, ARIZONA . . . . .	39
<i>Site Description</i> . . . . .	39
<i>System Description</i> . . . . .	39
<i>Law Generation</i> . . . . .	39
<i>Enforcement</i> . . . . .	40
<i>Adjudication</i> . . . . .	42
<i>Sanctioning</i> . . . . .	43
<i>Problem Areas and Possible Fixes</i> .....	43
CASE STUDY RESULTS - ROCKDALE COUNTY, GEORGIA . . . . .	45
<i>Site Description</i> . . . . .	45
<i>System Description</i> . . . . .	45
<i>Law Generation</i> . . . . .	45
<i>Enforcement</i> . . . . .	45
<i>Adjudication</i> . . . . .	47
<i>Sanctioning</i> . . . . .	48
<i>Problem Areas and Possible Fixes</i> .....	48
CASE STUDY RESULTS - PALM BEACH COUNTY, FLORIDA . . . . .	49
<i>Site Description</i> . . . . .	49
<i>System Description</i> . . . . .	49
<i>Law Generation</i> . . . . .	49
<i>Enforcement</i> . . . . .	49
<i>Adjudication</i> . . . . .	50
<i>Sanctioning</i> . . . . .	52
<i>Problem Areas and Possible Fixes</i> .....	53
<b>4 - SYSTEM FAILURES AND SUGGESTED FIXES</b> . . . . .	<b>55</b>
INTRODUCTION . . . . .	55
SYSTEM FAILURES . . . . .	55
<i>Enforcement</i> . . . . .	55
<i>Failure to Find DWI Suspects</i> . . . . .	55
<i>Failure to Confirm Suspects as DWIs</i> . . . . .	56
<i>Failure to Process DWIs in a Timely Manner</i> . . . . .	57
<i>Adjudication</i> . . . . .	58
<i>Failure to Charge DWIs</i> . . . . .	58
<i>Failure to Obtain a Guilty Plea from DWIs</i> .....	58
<i>Failure to Convict DWIs</i> . . . . .	59
<i>Sanctioning</i> . . . . .	61
<i>Failure to Impose Appropriate Sanctions</i> . . . . .	63
<i>Failure to Execute Imposed Sanctions</i> . . . . .	63
<i>Failure to Uphold Administrative Sanctions</i> . . . . .	64
SUGGESTED FIXES . . . . .	65
<i>Enforcement</i> . . . . .	65
<i>Failure to Find DWI Suspects</i> . . . . .	65

<i>Failure to Confirm Suspects as DWI</i> . . . . .	71
<i>Failure to Process DWIs in a Timely Manner</i> . . . . .	73
<i>Adjudication</i> . . . . .	75
<i>Failure to Charge DWIs</i> . . . . .	75
<i>Failure to Obtain Guilty Pleas from DWIs</i> .....	78
<i>Failure to Convict DWIs</i> . . . . .	81
<i>Sanctioning</i> . . . . .	85
<i>Failure to Impose Appropriate Sanctions</i> . . . . .	85
<i>Failure to Execute Imposed Sanctions</i> . . . . .	89
<i>Failure to Uphold Administrative Sanctions</i> . . . . .	90
IMPLEMENTATION OF SYSTEM FIXES . . . . .	93
SUMMARY AND CONCLUSIONS . . . . .	94
<b>5 - CONCLUSIONS AND RECOMMENDATIONS</b>	<b>99</b>
<b>6 - REFERENCES</b> . . . . .	<b>103</b>
<b>APPENDIX - SUMMARY OF TELEPHONE DISCUSSIONS</b>	<b>105</b>



## FIGURES

Figure 2-1: Top-Level Flowchart of the Baseline DWI Enforcement System	9
Figure 2-2: Flowchart for Function 2.0, Law Enforcement	11
Figure 2-3: Flowchart for Function 2.1, Perform Surveillance	12
Figure 2-4: Flowchart for Function 2.2, Detect Suspect	13
Figure 2-5: Flowchart for Function 2.3, Stop Vehicle	14
Figure 2-6: Flowchart for Function 2.4, Conduct Pre-Arrest Investigation	14
Figure 2-7: Flowchart for Function 2.6, Conduct Post-Arrest Investigation and Processing	16
Figure 2-8: Flowchart for Function 3.0, Adjudication	18
Figure 2-9: Flowchart for Function 3.1, Determine Guilt - Administrative	19
Figure 2-10: Flowchart for Function 3.2, Process Appeal of Administrative Decision	20
Figure 2-11: Flowchart for Function 3.4, Hear Motions - Judicial	22
Figure 2-12: Flowchart for Function 3.4, Conduct Trial - Judicial	22
Figure 2-13: Flowchart for Function 4.0, Sanctioning	24
Figure 2-14: Flowchart for Function 4.2, Diagnose and Refer	25
Figure 2-15: Flowchart for Function 4.3, Impose Probation	26
Figure 2-16: Flowchart for Function 4.4, Determine Action for Non-Compliance	27
Figure 4-1: Factors Contributing to "Failure to Find DWI Suspects"	56
Figure 4-2: Factors Contributing to "Failure to Confirm Suspects as DWIs"	57
Figure 4-3: Factors Contributing to "Failure to Arrest and Process DWIs In a Timely Manner"	58
Figure 4-4: Factors Contributing to "Failure to Charge DWIs"	59
Figure 4-5: Factors Contributing to "Failure to Obtain Guilty Plea From DWIs"	60
Figure 4-6: Factors Contributing to "Failure to Convict DWIs"	61
Figure 4-7: Factors Contributing to "Failure to Impose Appropriate Sanctions"	62
Figure 4-8: Factors Contributing to "Failure to Execute Imposed Judicial Sanctions"	64
Figure 4-9: Factors Contributing to "Failure to Uphold Administrative Sanctions"	64
Figure 4-10: Causes and Fixes of "Too Few Units Observing for DWI"	66



Figure 4-11: Cause and Fix of "Inability to Recognize DWI Driving Behavior"	67
Figure 4-12: Causes and Fixes of "Ineffective or Inefficient Use of Resources"	68
Figure 4-13: Causes and Fixes of "Ineffective Use of Citizen Reporting"	69
Figure 4-14: Cause and Fixes of "Too Much Time Spent Collecting Data"	71
Figure 4-15: Causes and Fix of "Failure to Observe for Signs of Alcohol Impairment"	72
Figure 4-16: Causes and Fix of "Failure to Properly Give or Interpret a Sobriety Test"	72
Figure 4-17: Causes and Fixes of "Long Waits for Support Units at Arrest Scene"	73
Figure 4-18: Causes and Fixes of "Long Time to Reach Processing Facility"	74
Figure 4-19: Causes and Fixes of "Use of Patrol Officers for Non-Patrol Duties"	75
Figure 4-20: Causes and Fixes of "Too Few Prosecutors to Process DWI Caseload"	76
Figure 4-21: Causes and Fixes of "Unnecessary or Inefficient Charging Procedures"	77
Figure 4-22: Causes and Fixes of "Insufficient or Inadmissible Evidence"	78
Figure 4-23: Causes and Fixes of "Defendants Fail to Appear"	79
Figure 4-24: Causes and Fixes of "Too Few Guilty Pleas at Arraignment"	79
Figure 4-25: Causes and Fixes of "Failure to Negotiate a Plea"	80
Figure 4-26: Causes and Fixes of "Too Many Motions and Continuances"	81
Figure 4-27: Causes and Fixes of "Critical Evidence Not Admitted"	82
Figure 4-28: Causes and Fixes of "No Testimony or Poor Testimony From a Key Witness"	84
Figure 4-29: Cause and Fix of "Inappropriate Not Guilty Verdict Rendered"	85
Figure 4-30: Cause and Fix of "Lack of Information"	86
Figure 4-31: Cause and Fix of "Lack of Sanctioning Resources"	87
Figure 4-32: Cause and Fix of "Lack of Uniformity in Sentencing"	87
Figure 4-33: Cause and Fix of "Insufficient Attention to Sentencing"	88
Figure 4-34: Causes and Fix of "Failure to Complete Term or Fulfill Conditions of Sentence"	89
Figure 4-35: Causes and Fix of "Police Officer Fails to Appear or Testify Effectively"	90

Figure 4-36: Causes and Fixes of "Non-Pertinent Issues Addressed at Hearings"	91
Figure 4-37: Cause and Fix of "Hearing Officer Arrives at an Erroneous Judgement"	92

## TABLES

Table 2-1: Restrictiveness of BAC Limits in Selected States at Start of Study	7
Table 2-2: Sanctions for DWI - Baseline System	9
Table 2-3: Performance and Requirements Measures for Perform Surveillance, Detect Suspect, and Apprehend Suspect	30
Table 2-4: Performance and Requirements Measures for Conduct Pre-Arrest Investigation, and Arrest and Transport Suspect	31
Table 2-5: Performance and Requirements Measures for Conduct Post-Arrest Investigation and Processing	32
Table 2-6: Performance and Requirements Measures for Determine Guilt (Administrative), Process Appeal of Administrative Decision, and Arraign	33
Table 2-7: Performance and Requirements Measures for Arraign, Hear Motions, Conduct Trial, and File and Conduct Appeal	34
Table 2-8: Performance and Requirements Measures for Sentence, Diagnose and Refer, Impose Probation, Determine Action for Non-Compliance, and Impose Punitive Sanctions	35



# EXECUTIVE SUMMARY

## STUDY OBJECTIVES AND APPROACH

Many alcohol-impaired drivers go either undetected or unpunished. This report attempts to identify where and how these individuals slip through the cracks in the criminal justice system. It also suggests potential fixes to close those loopholes.

Specific objectives of the project were:

- to describe various ways being used in the United States to enforce laws limiting a driver's blood alcohol concentration (BAC);
- to identify significant problems that occur in DWI (driving while intoxicated) enforcement and the impact of these problems on catching law violators and subjecting them to appropriate sanctions; and
- to suggest changes in DWI enforcement that would prevent or ameliorate these problems.

To do this, we:

- conducted telephone discussions with law enforcement officials in ten jurisdictions to obtain an overview of current DWI enforcement methods and problems;
- visited three jurisdictions and prepared detailed case studies of their DWI enforcement methods and problems; and
- convened an expert panel of individuals with extensive experience in DWI enforcement. The panel provided additional information and helped in analyzing the information.

## RESULTS

A total of 28 significant problems in enforcing BAC-limit laws was identified and traced to their most common causes. These problems degrade the ability of the police to find DWI suspects, confirm suspects as DWI, and process suspects more quickly. The problems also degrade the ability of prosecutors to charge and obtain convictions of DWI defendants and the ability of judges to impose appropriate sanctions on persons convicted of DWI.

Some 50 fixes were recommended for consideration by jurisdictions experiencing these problems. Types of fixes recommended were:

- expanded training programs for police officers, prosecutors, judges, and administrative hearing officers;

- new or modified procedures for catching and processing suspected DWIs, adjudicating DWI cases, and sanctioning DWI offenders;
- additional equipment, facilities, and personnel for agencies involved in enforcing BAC laws;
- additional funding to support the operation of these agencies;
- new or modified laws on the conduct of criminal and administrative adjudicative proceedings; and
- focused public information programs to gain public support for the operation of DWI enforcement agencies.

## CONCLUSIONS AND RECOMMENDATIONS

We conclude that DWI enforcement in most jurisdictions is functioning at an acceptable, if not optimal, level, and is functioning extremely well in some jurisdictions. Specific conclusions and recommendations flowing from this project are:

**Conclusion:** The greatest improvement in DWI enforcement in most jurisdictions will be realized by increasing the percentage of patrol officers' time available for looking for and interdicting DWI suspects. However, all involved agencies must be prepared to adapt to the greater demands on their resources (for example, larger case loads) resulting from such increases.

**Recommendation:** Police command staff should reconsider their policies for allocating personnel and other resources to ensure that sufficient emphasis is being given to DWI enforcement.

Police managers should examine each support function performed by patrol officers to see how arrest and processing time can be reduced.

The possibility of reducing the time spent fulfilling reporting requirements should also be considered. The use of shortened forms and computer technology is one of the most productive ways of increasing officer availability for patrol tasks. Another way of increasing patrol time is to assign support duties during suspect processing to clerical staff or other non-sworn personnel.

**Conclusion:** The time required to adjudicate driving while intoxicated (DWI) cases is excessive in many jurisdictions, often stretching out for months and, sometimes, for years. This violates a basic tenet of deterrence theory that calls for the timely imposition of punishment for proscribed behavior.

## EXECUTIVE SUMMARY

**Recommendation:** Judicial agencies should examine their procedures to learn where inordinate amounts of time are being spent. Particular attention should be given to the parts of the process that involve pre-trial hearings and continuances. There should be an eye toward restricting the conditions under which the process can be extended in time.

**Conclusion:** The failure to appear (FTA) by defendants at adjudicative hearings can have a large negative impact on system performance by reducing their availability for determination of guilt and sanctioning if found guilty. The extent of this problem nationwide is not known, but our research suggests that it could be widespread.

**Recommendation:** Jurisdictions should undertake research to learn the nature and extent of their FTA problem. If the problem is serious, then ways of dealing with it should be devised, including the revocation of the driver license for FTA.

**Conclusion:** A series of unexpected problems is occurring in the operation of the administrative adjudication components of DWI enforcement. These problems include excessive demands on police officers' time to appear at administrative hearings; procedures that require police officers to file a written request for continuance if unable to appear at a hearing; laws that prohibit a prosecutor from appearing at a hearing, placing the police officer in the role of prosecutor; hearing officers allowing non pertinent issues to be addressed at the hearing; and hearing officers' lack of knowledge of the law, alcohol impairment of driving performance, techniques for determining impairment, or some combination of these. These problems are causing the process to be avoided by police officers in some jurisdictions. Thus, the intended administrative sanctions are avoided by violators.

**Recommendation:** The requirement for police officers to appear at administrative hearings, scheduling of officers at hearings, qualifications of hearing officers, and pertinent issues that may be addressed at hearings should be examined.

**Conclusion:** Judges need more information on offender characteristics and sanctioning alternatives to develop effective sentencing packages.

**Recommendation:** Judges should be provided information on offender characteristics and sanctioning alternatives for use in sentencing. Sentencing guidelines for violations of laws regarding alcohol-related driving should also be provided. Research findings on the effectiveness of sanctions for DWI need to be disseminated to judges in an easy-to-use format.

**Conclusion:** Public support for DWI enforcement is critical to maintaining an acceptable level of performance.

**Recommendation:** Communities should develop and carry out public information programs on the nature and extent of the alcohol-crash problem locally, and on resources and legislation needed for enforcing BAC laws.

**Conclusion:** The introduction of laws limiting the BAC of various categories of drivers may not be having any serious impact on DWI enforcement. Specifically, laws setting the BAC limit at 0.08 has had little affect on the functioning of agencies involved in DWI enforcement. In states having so-called "zero-tolerance" laws for underage drivers, insufficient information existed during this project to determine whether these laws are creating difficulties or are not achieving their intended results. However, limited data suggest that there are problems in processing juveniles suspected of violating zero-tolerance laws, particularly in transporting and holding such suspects.

**Recommendation:** More research on the nature, provisions, and impact of zero tolerance laws should be conducted. NHTSA is now examining zero-tolerance laws and their application for youth. This should help fill this gap.

# 1 - INTRODUCTION

The general objective of this project was to determine where and how different types of DWI<sup>1</sup> enforcement systems fail in their mission to reduce alcohol-impaired driving and to suggest fixes for those failures. This project was concerned with improving the performance of governmental agencies that enforce laws limiting the blood alcohol concentration (BAC) of drivers of vehicles that operate on our nation's roads and highways. In this report we call the collection of these agencies in a given jurisdiction, and their procedures and resources, a "DWI enforcement system."

Specific objectives of the project were:

- to describe various ways being used in the United States to enforce<sup>2</sup> laws limiting a driver's blood alcohol concentration (BAC);
- to identify significant problems that occur in DWI enforcement systems and the impact of these problems on catching law violators and subjecting them to appropriate sanctions; and
- to suggest changes in DWI enforcement that would prevent or ameliorate these problems.

## BACKGROUND

We envisage the Traffic Law System (TLS) as one of many societal systems that attempt to manage risk created by our Highway Transportation System (Jones and Joscelyn, 1976). *Traffic crash risk* is the particular domain of the TLS. In a positive sense, the TLS provides guidelines for the normal operations of the Highway Transportation System, and in a negative sense, it prohibits actions that create traffic crash risk and generates forces designed to control those actions. *In general, its objective is maintaining crash risk at a level that is tolerable to society.*

For many reasons, DWI enforcement systems often fail to maintain drinking-driving risk within tolerable limits. Such system failures are the result of a failure of the system to perform one or more of its constituent functions. Usually, the failures

<sup>1</sup> In this report, the term "DWI" is used generically to describe driving with an illegally high blood alcohol concentration (BAC). Other terms that are used by some jurisdictions include DUI (driving under the influence) and DWAI (driving while ability impaired), among others.

The term "enforcement" is used in this report to indicate the full range of functions that are performed by DWI enforcement systems in creating a deterrent threat for discouraging violations of BAC laws. This definition includes the traditional enforcement function dealing with the detection and apprehension of law violators, as well as the subsequent functions of adjudication and sanctioning. We will use the more narrow definition of the term that excludes adjudication and sanctioning in later discussions.



are not catastrophic, but merely result in reduced performance. For example, jurisdictions rarely cease to detect and apprehend DWI violators entirely, but only fail to detect and apprehend enough of them.

The reasons *why* these failures occur are of major concern in this project. The failure to detect and apprehend enough alcohol-impaired drivers may simply be due to too few police officers observing for cues to driving while intoxicated (DWI). However, failures are very seldom isolated but are interconnected with other failures. For example, the lack of officers observing for DWI may be due to a lack of command emphasis of DWI enforcement, which is due to a lack of public support for necessary resources, which is due to poor public information programs publicizing local alcohol-related traffic crashes and describing alcohol-crash risk compared with the risk of violent crimes. Thus, looking for *chains* of failures that define the *failure modes* of a DWI enforcement system is necessary. It is not enough just to look for individual failures.

The situation is made even more complex by the possibility of multiple failure modes behind a single system failure. Another failure mode resulting in a failure to detect and apprehend enough alcohol-impaired drivers may originate with poorly designed and time-consuming procedures for police-officer participation in adjudication proceedings. Such procedures could undermine police motivation to detect, apprehend, and process DWI suspects.

Finally, a system may be experiencing multiple system failures, with each system failure being the result of several simultaneously-occurring and mutually-reinforcing failure modes. For example, besides the failure modes contributing to the detect-and-apprehend failures described above, one might have several other failure modes resulting in a failure to impose effective sanctions to deter alcohol-impaired driving.

This project was concerned with identifying common failures and failure modes in DWI enforcement systems and in generating promising ways of dealing with them. Problems arising in the enforcement of laws dealing with driver impairment by drugs other than alcohol were not addressed explicitly in this project, although some of the same problems can occur in enforcing both alcohol-impairment and drug-impairment laws.

From the definition above, the DWI enforcement system is clearly concerned with a particular type of traffic-crash risk, that which is created by alcohol-impaired drivers. At the highest level, the formal functions of a DWI enforcement system are law generation, law enforcement, adjudication, and sanctioning, defined broadly as follows:

### **Law Generation**

- Define the target risk precisely;
- Prohibit behavior that creates risk (i.e., driving with a BAC exceeding specified limits);
- Provide for the operation of the DWI enforcement system through procedural guidelines, creating necessary entities, and funding them.

### **Law Enforcement**

- Detect and apprehend violators for further system action; and
- Manipulate human behavior to prevent violations.

### **Adjudication**

- Determine if risk-taking occurred for individuals apprehended by Enforcement;
- Determine the validity of risk prohibitions by Law Generation; and
- Provide fundamental fairness essential for system operation.

### **Sanctioning**

- Provide the ultimate system response to ensure that the sanctioned individual will not engage in risk-taking in the future (specific deterrence); and
- Provide a pattern of responses to individual risk-taking that influences all potential risk-takers to refrain from such actions (general deterrence).

Besides the traditional functions listed above, a fifth, less formal, function is concerned with the dissemination of information among the components of the system and to potential DWI violators, among others.<sup>3</sup>

Many governmental agencies and institutions are involved in performing these functions. However, the DWI enforcement system has no "system manager" (because of the American doctrine of separation of powers), and has no "system specification" for describing what the system or any of its components should do. Actually, the DWI enforcement system is a "system of systems," each operating almost independently in some jurisdiction, but loosely bound by a common set of principles.

## **SCOPE AND APPROACH**

This project dealt with all of the functions of the DWI enforcement system as defined above, but was most interested in the enforcement function as affected by other functions of the system. The processes involved in the Law Generation function were not examined in this project, but pertinent BAC laws that must be "enforced" by the other three functions were of concern. In our analyses of these processes, we also looked for system failures that might be associated with laws specifying different BAC limits for different groups of drivers.

The project involved several tasks. First, we developed measures of the performance of DWI enforcement systems. Then, criteria were developed for selecting case-study sites at which the operation of various classes of systems could

Note that these functions are *top-level functions*. Each of them can be (and is in our analyses) broken down into lower-level functions.

be observed. Criteria for selecting the members of an expert panel were also developed at this time.

We then developed a set of specifications of a traditional DWI enforcement system. The specifications were used as a framework for analyzing the systems and as a basis for comparing other types of DWI enforcement. Remaining tasks involved the identification of system failures and suggested fixes. All of this work was supported by ideas from the panel and by information gained in the site visits.

The expert panel was absolutely crucial to the conduct of this study, providing operational experience in all of the functional areas of the DWI enforcement system. The panel was not asked to reach a consensus on any particular issue, but merely to provide the individual members' opinions on those issues. It consisted of six members selected based on subject-area expertise and knowledge, willingness and ability to work and participate in cooperative group discussions, and representation of both national organizations and local practitioners. The panel helped in developing more detailed descriptions of common types of systems. The panel also helped in determining how and why these systems sometimes fail to operate as they were designed to operate, and in developing the fixes for the failures. Two, two-day meetings of the panel were held during the study. Other information about the operation of DWI enforcement systems was obtained through a series of telephone discussions with enforcement and adjudication staff in several states.

## ORGANIZATION OF THE REPORT

This report contains five chapters and one appendix. In Chapter 2, a detailed description of a baseline or nominal DWI enforcement system is presented as a basis for comparing other systems examined during the project. Chapter 3 describes DWI enforcement systems in three case-study jurisdictions. Problems being experienced in those systems, and some solutions being considered by various system actors are also discussed in Chapter 3.

Failures in performing DWI enforcement system functions are described in Chapter 4, along with brief descriptions of suggested fixes to the failures. Some considerations important to carrying out the alternatives are also discussed in Chapter 4. The conclusions and recommendations flowing from the study are presented in Chapter 5. The appendix summarizes the results of the telephone discussions.