

**UNC  
Highway  
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University of North Carolina  
Highway Safety Research Center  
Chapel Hill, N.C. 27514

AN INITIAL EVALUATION OF THE NORTH CAROLINA  
ALCOHOL AND DRUG EDUCATION  
TRAFFIC SCHOOLS

Volume I  
Technical Report

Carol L. Popkin  
Livia K. Li  
John H. Lacey  
J. Richard Stewart  
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An Initial Evaluation of the North Carolina Statewide  
Alcohol and Drug Education Traffic Schools  
conducted by the  
UNC Highway Safety Research Center

EXECUTIVE SUMMARY

With the 1979 passage of Senate Bill 691, North Carolina adopted a statewide program of Alcohol and Drug Education Traffic Schools (ADETS) for first time convictees of Driving Under the Influence (DUI) and Careless and Reckless Driving after Drinking. The program went into effect January 1, 1980. This is the report of an initial overall evaluation of the program conducted by the UNC Highway Safety Research Center under contract to the N.C. Department of Human Resources.

The scope of the evaluation activity included reviewing the program coordination activities handled at the state level and attending one of the ADETS courses in order to describe the process, analyzing knowledge tests taken by ADETS students to assess knowledge gain as a result of attending the schools, surveying various ADETS users groups to determine their perceptions of the program, querying neighboring states as to their practices in regards to ADETS type programs and analyzing DUI arrest/conviction data and accident data to assess the potential deterrent effects that may be realized as a result of attending the course.

State Level Program

Major functions of the state level program staff include general administration of the ADETS program, development of standards and curricula and accreditation of local programs, training and certification of instructors, providing information to the general public and providing feedback to schools, courts and other governmental agencies. The state level staff is organized with

a state level DUI Program Coordinator and two regional DUI specialists with two additional support staff persons in Raleigh.

When the enabling legislation was enacted, 35 local schools were already in existence but with widely differing curricula. State program personnel developed a model curriculum, provisionally accredited the existing schools and provided provisional accreditation to additional local mental health programs so that 86 schools were in operation at the time the legislation went into effect on January 1, 1980. State level personnel conduct instructor training and certification and assist in the development of new schools. These personnel conducted site visits to existing schools during 1980 and issued full accreditation to them. There are currently 88 schools statewide and over 200 certified instructors. Schools are now available throughout North Carolina. The schools are generally run by local mental health agencies, although some are run through contract with other public or private providers. Over 30,000 students attend the schools each year.

The schools were intended for first-time convictees of DUI and careless and reckless after drinking. Generally, first offenders are required to attend the school as a condition of receiving a limited driving privilege and successful completion of the school permits reinstatement of full driving privileges six months after conviction rather than the customary twelve months. A sizeable fraction of persons attending the school are multiple offenders and are not eligible for a limited privilege or reduced license suspension.

The fee for attending the schools is \$100, paid by the offender. Ninety-five dollars of the fee is retained by the schools and \$5 forwarded to the state level program. Those funds not used at the local level for the ADETS program do not revert but must be used for other alcohol or drug related activities. There is a great deal of variation statewide in the cost per pupil

to conduct the schools. This is not accounted for by variation in average class size (which might be assumed to realize certain efficiencies) but is more likely accounted for by differing practices in allocating resources to the schools and in charging for various administrative and support expenses by the area programs.

The schools provide from ten to thirteen hours of classroom instruction on alcohol in general, its effects on the body and driving, other drugs, alcoholism, DUI law and penalties and how to better cope with potential drinking driving situations. There is variation in scheduling practices with most schools holding four or more classes at weekly intervals. However, until recently, some schools held a single 10 hour session. Much of the material is usually presented in a lecture format supported by visual aids, including movies. Most courses do incorporate a discussion format at times, particularly when covering how to handle potential DUI situations.

A knowledge test is administered to the students at the beginning and again at the conclusion of the course, but scores on the test do not determine successful completion of the course. Rather, satisfactory completion is contingent on attending all classes and good behavior in the classes.

State program personnel and resources are also allocated to public information activities on a statewide basis as well as assisting in local school outreach activities with the courts, law enforcement personnel, public school system and general public.

#### Knowledge Test

A standard knowledge test is routinely administered to ADETS attendees at the beginning and again at the conclusion of the course. A sample was obtained of pre and post tests completed in the second quarter of 1981. These were

computer graded and analyzed to assess knowledge gain of course attendees, to identify the most and least effective areas in the course in terms of knowledge transfer and to evaluate each test question relative to the overall test. The sample was balanced to select schools from both urban and rural areas and from all four regions of the state. A total of 1594 pairs of pre and post tests were included in the analysis.

The average overall test score for the pre-test was 56.0, while for the post-test it was 76.5, indicating a test score gain of 20.5 percentage points or a 38 percent increase. Test items were categorized by content area, and the results of this analysis are shown in Table 1.

Table 1. Analysis of Mean Percentage Test Scores

	<u>Pre-Test</u>	<u>Post-Test</u>	<u>Difference</u>
General (5 items)	46.8	72.8	26.0
Effects of Alcohol (5)	63.0	74.5	11.5
DUI Law (4)	40.6	68.6	28.0
Alcohol Ingestion & BAC (10)	68.4	85.4	17.0
Drugs (3)	38.7	67.1	28.4
Total Test (27)	56.0	76.5	20.5

All pre-test/post-test differences are significant at the  $p < .01$  level indicating that the course is generally successful in realizing a knowledge gain on the part of its attendees. It was also found that students from schools with the smallest class sizes had the largest knowledge gain.

Each test item was subjected to analysis in terms of its relative difficulty and the viability of its alternative choices. The better items are identified as well as those in need of improvement. General recommendations in terms of revising the test to make it a better test of knowledge gain are also made.

### Surveys of ADETS Target Groups

Mail questionnaires were distributed to ten different target groups having some interest in the ADETS program. Target groups were district court judges, district attorneys, defense attorneys, superior court clerks, court liaison personnel (or court counselors), State Highway Patrol troopers, mental health area directors, ADETS school instructors, ADETS students and citizens concerned about drunk driving. Using a total of 40 questions (not all of which were appropriate to or addressed to every group), groups were queried about their perceptions of different areas of the ADETS program. Not all groups were asked about all areas, but a total of 12 areas was covered. These included: awareness of ADETS; fairness of the program; opinions of other groups' perceptions of ADETS; ADETS as a sentence reduction or educational measure; reactions to ADETS course content; referral and administrative activities; follow-up activities on non-compliance; transfers; fee collection; need for a separate multiple offender program; effectiveness of ADETS in deterring drunk driving; and suggestions to improve the program.

The return rates for the questionnaires were in general quite high with four groups having return rates in excess of 80 percent. The notable exception was the ADETS student group (26 percent). Target groups' perception of the ADETS program were quite similar across groups. With the exception of the students, the groups considered ADETS as being administered fairly. Respondents saw district attorneys and defense attorneys as liking the ADETS program, but they did not see the defendants as liking ADETS as much. A large proportion of respondents in all groups perceived ADETS as being primarily an educational program and not a measure merely to avoid active sentence.

There is overwhelming agreement among respondents in seeing a need for a separate program for multiple offenders, because ADETS was considered primarily beneficial to first time DUI offenders.

Other suggestions were offered by respondents for improving the overall ADETS program. More vigorous follow-up of non-compliance cases, less time lag between conviction date and school attendance, better coordination with the courts and having court liaison persons available to the schools at all times were the major suggestions offered by the respondents.

#### Survey of Similar Systems in Neighboring States

A questionnaire about ADETS type programs was sent to nine neighboring states with eight replying. All states that replied have ADETS type schools. Attendance is not mandatory in every state and criteria for eligibility also varies. Fees vary from \$25 to as much as \$425 as does the extensiveness of the courses (from 8 to 32 hours with most having a duration around 10 hours). Half of the states reduced other sanctions for those attending school. Few states had conducted outcome evaluations of their program.

#### Analysis of DUI Recidivism and Crash Experience of ADETS Attendees

The ideal outcome analysis for a program such as ADETS which aims to reduce DUI recidivism and crashes among its participants would be to assign eligible individuals randomly to attend or not attend the schools and then monitor their driving performance. This was not possible in this instance since the program was to be made available to all who wished to attend. However, in 1980 and 1981, 33825 first offenders did attend and complete the school (study group), while 16429 did not attend the schools (comparison group). The driving performance of these two groups was then compared while controlling for other variables on which they differed and which were related to DUI recidivism such

as age, race and BAC at time of initial arrest. Although this lack of random assignment represents a compromise from the ideal experimental design, the ability to control for certain variables related to subsequent driving performance does permit making relatively meaningful comparisons between the study group and the comparison group. What cannot be controlled for using available data are issues such as socio-economic status, representation by counsel, other courtroom dynamics and the like.

Adjusted cumulative quarterly recidivism rates on a number of outcome measures were computed for each of the groups beginning from completion of ADETS for each individual in the study group and 46 days after conviction (the mean time to completion of school for the study group) for each individual in the comparison group (these dates are referred to as the reference date in subsequent discussions) until November 1982, when a current N.C. driver history file was obtained for the purposes of this analysis. Outcome measures examined included DUI convictions, careless and reckless convictions, total accidents, alcohol related accidents and nighttime crashes.

Several different time frames were examined and the experience of the two groups contrasted. One time frame consisted of the first four quarters after the reference date for both groups. In this comparison the study group was likely to have greater driving exposure because they were more often granted limited driving privileges and had full driving privileges restored after six months, while the comparison group was more likely to have suspended licenses throughout. A second time frame began one year after the reference date and continued for the five succeeding quarters, a period during which most individuals in both groups would have had full driving privileges restored. A third time frame compared the experience of the study group beginning six months after the reference date with that of the comparison group beginning twelve

months after the reference date, a point in time just after which most persons in both groups had had full driving privileges restored.

For all outcome measures studied and all time frames examined, the group attending ADETS fared worse than the comparison group which did not attend ADETS. The results were highly statistically significant. Figures 1 and 2 graphically portray the experience of the two groups on DUI recidivism using two different time frames.

One of the most effective deterrents to DUI recidivism is license suspension or revocation. The legislation under which statewide ADETS was implemented to a great extent diminished that sanction for those who attended ADETS. Individuals in the comparison group were more likely to receive true license suspension. Besides potential problems which may have been brought about by unmeasured differences between the study group and the comparison group, it may be that the loss of deterrent effect that may have accrued by the diminished licensing action for the study group could not be compensated for by whatever beneficial effect attendance at a 10 to 13 hour course may have had for that same group. Under legislation to be implemented October 1, 1983, attendance at ADETS will be in addition to other sanctions rather than in place of other sanctions. Under such a system an ADETS program in N.C. may be able to afford benefits in addition to those offered by other sanctions also imposed.

#### Conclusions and Recommendations

The state level program provides generally effective coordination and support to the local ADETS programs given the constraints under which it must work. A major constraint is that the local programs are relatively autonomous, coming under the direct supervision of the area mental health director. Thus, the state level program cannot dictate procedures and practices but rather

Figure 1 Cumulative DUI Conviction Rates by Group Beginning at Completion of ADETS

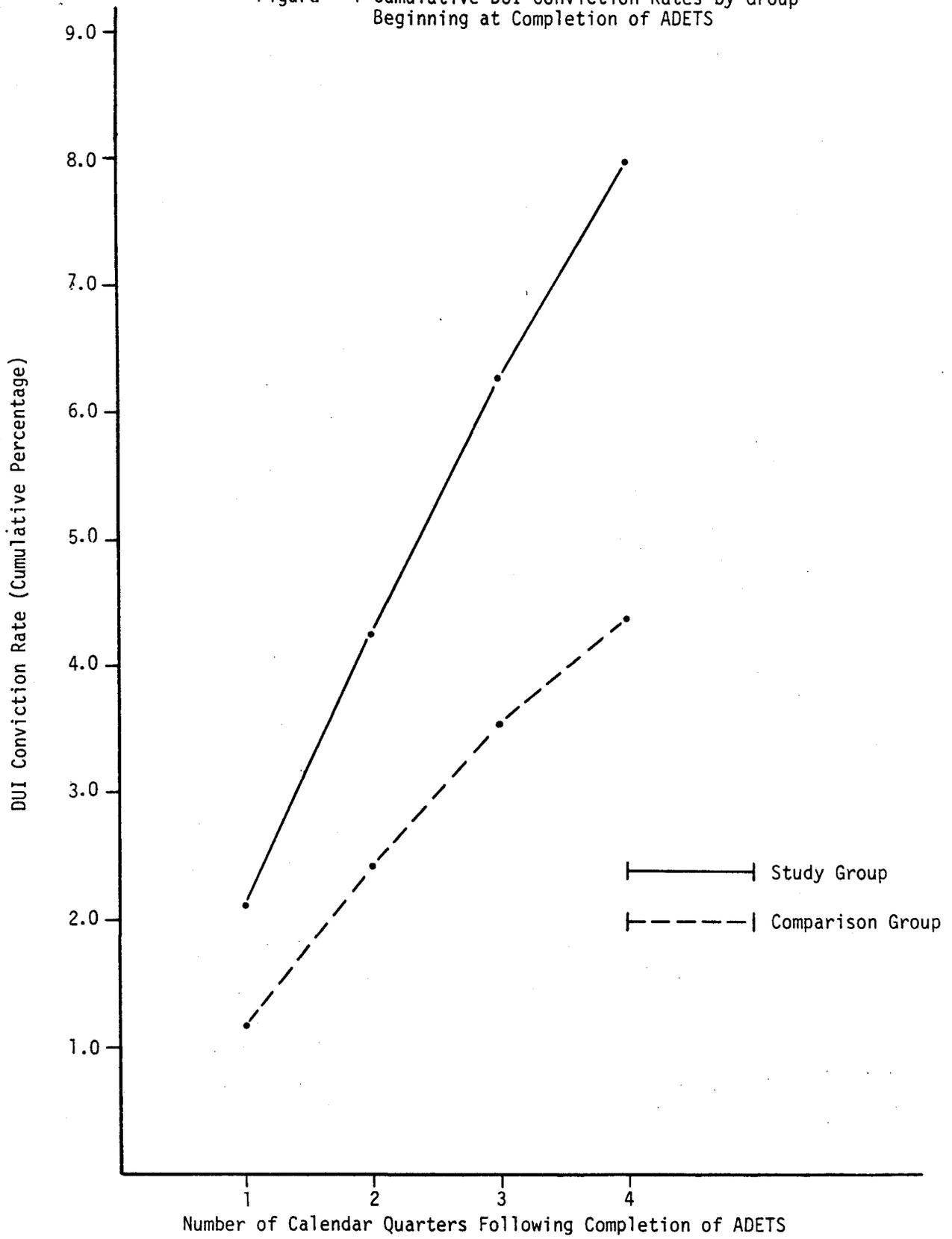
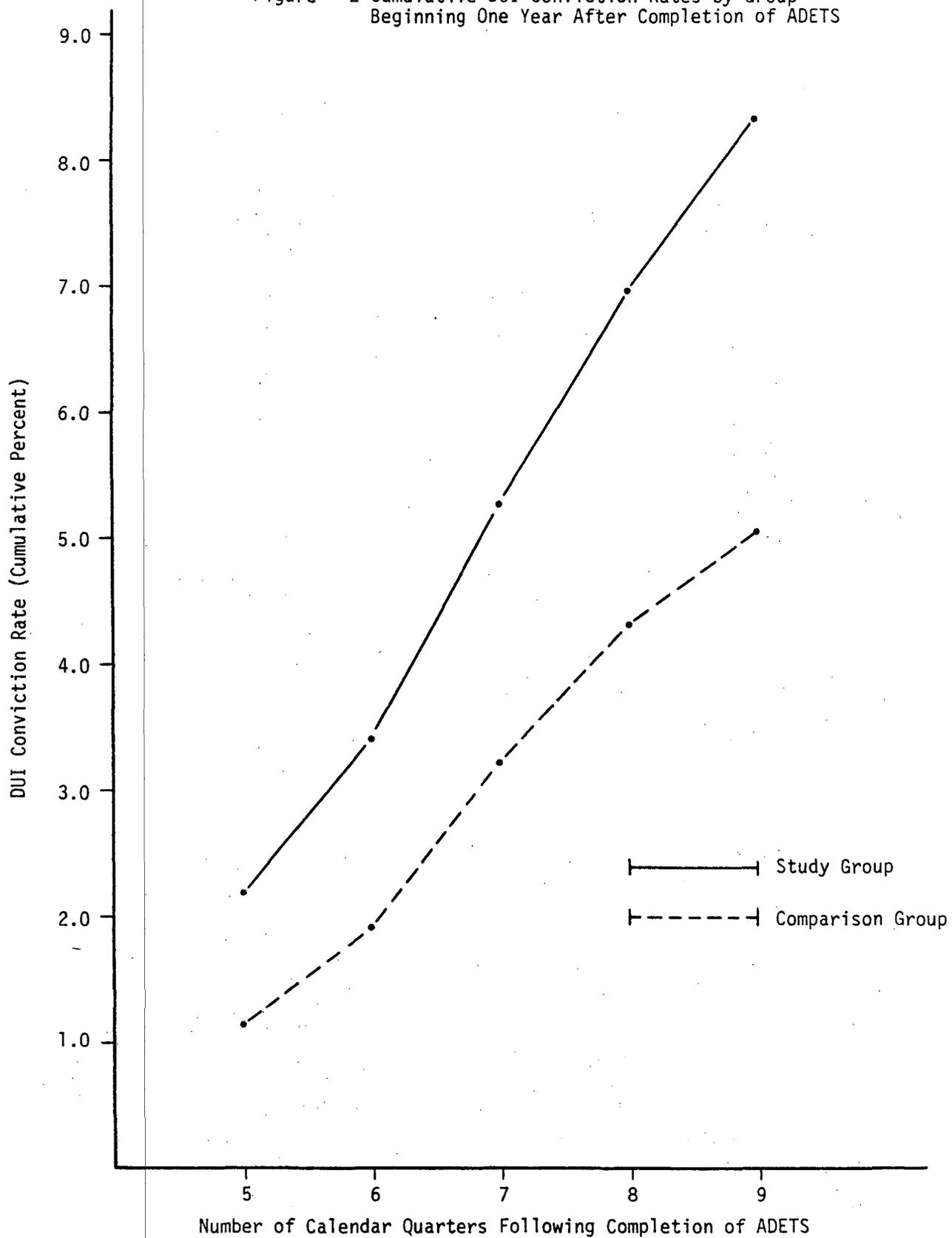


Figure 2 Cumulative DUI Conviction Rates by Group  
Beginning One Year After Completion of ADETS



through its school accreditation and instructor certification program can set minimum general standards for the local schools.

Because of differing practices at the local level in charging various categories of effort to the schools, current financial reporting procedures make it difficult to accurately measure the financial resources devoted to the operation of the schools. Results of the knowledge test analysis indicate that the smaller the class size the greater the knowledge gain. More consistent financial reporting would enable one to more accurately determine the relationship between class size and per student cost and develop meaningful and practical guidelines for maximum class size. Consistent guidelines for financial reporting of ADETS school expenditures which accurately reflect actual expenditures on operating the schools should be developed and implemented.

Multiple offenders are frequently referred to the schools. Past research has indicated that they are unlikely to benefit from such short term programs. With few exceptions multiple offenders should not be included in ADETS type programs. Rehabilitative efforts for them, if attempted, should be longer term and of a different nature. This conclusion is supported by the sentiments of the respondents to the target group questionnaires. Under the Safe Roads Act persons convicted of DUI for the second or subsequent time and persons with a BAC over .20 will be referred to an assessment program designed to determine the extent of their drinking problem and recommend a treatment program if appropriate.

Substantial knowledge gains are realized as a result of attendance at the schools. The pre/post-test instrument was developed under tight time constraints and not according to standard test construction procedures. Because it could be a better measure of knowledge gain and thus a better tool for

program management if revised according to standard test construction procedures it is recommended that the test be revised and improved.

Student respondents to the questionnaire suggested more visual aids, case studies and group discussion. The call for group discussion would probably dictate a need for smaller average class size. Respondents to the questionnaires also called for better follow-up of non-compliance cases and otherwise better coordination with the courts. In general, questionnaire respondents viewed ADETS favorably.

Analysis of driving records of first offenders attending the school versus those not attending the schools indicates that school attendees had worse driving records than the comparison group. This is most likely because the school group received shorter license suspensions than the comparison group. License sanctions are one of the most effective recidivism deterrents for DUI offenders and a reduction of that sanction is likely to more than offset any positive effect that may have accrued due to attendance at the schools. Under new legislation effective October 1, 1983, attendance at ADETS will be in addition to rather than in place of any other sanction. It is advisable that the driving experience of ADETS attendees be monitored under this new arrangement for any positive effects it may have. Programs such as ADETS are not without cost to North Carolinians and as such should be monitored and enhanced so as to be as effective as possible.

The first DUI offense is often one of the earliest indicators society has that an individual may be developing a drinking problem. It is important that one continue to offer interventions aimed at helping these individuals to better deal with alcohol as well as impose sanctions intended to punish them and deter them from further DUI activity. It is hoped that through thoughtful examination

programs such as ADETS can be refined and enhanced so as to be most effective in helping to deal with this difficult problem.

## 1. INTRODUCTION

In 1979 the N.C. State Legislature enacted a law which provided that Alcohol Drug Traffic Education Schools be available on a statewide basis by January 1, 1980 for the primary purpose of treating first offender DUI's. The law also provided that an evaluation of the program be conducted. In August of 1982 the N.C. Department of Human Resources contracted with the UNC Highway Safety Research Center to conduct an initial evaluation. This report contains the results of this evaluation effort through June 30, 1983 and is presented in four additional chapters. The next section contains a description of the statewide program and of an ADETS course attended by project personnel. The third section is an analysis of knowledge changes attributable to attendance at ADETS as measured by tests routinely administered by the schools at the beginning and conclusion of the course. The fourth section contains the results of surveys conducted of several user groups of the schools. The fifth section contains a description of similar schools in neighboring states. The final section contains the results of an analysis of traffic conviction and crash data which compares the experience of persons completing ADETS in 1980 and 1981 with that of persons convicted of the same offenses in the same period who did not attend ADETS. The final chapter also contains a discussion of the program implications based on the overall findings.

## 2. DOCUMENTATION/DESCRIPTION OF ADETS STATE LEVEL STAFF ACTIVITIES

### 2.1 Goals of the System

Senate Bill 691, which provided for the establishment of a statewide educational countermeasure targeted at driving under the influence (DUI) offenders, was ratified by the General Assembly on June 8, 1979. It took effect on January 1, 1980. A copy of the legislation pertaining to Alcohol Drug Education Traffic Schools (ADETS) will be found in Appendix 2-A. One of the most important goals of the legislation is to provide an educational intervention for first time DUI convictees in an effort to alter their subsequent drinking driving behavior. Related goals are to reduce the frequency of alcohol and drug-related traffic offenses by modifying the behavior of course participants and to reduce recidivism, BAC levels and alcohol/drug-related crashes. In addition the legislation is aimed at increasing knowledge of DUI laws, alcohol and substance abuse.

For the courts, ADETS is intended to provide a positive sanction for first time offenders. The current ADETS system has 88 ADETS. There are 100 counties in North Carolina so there is a school in nearly every county. Many of the schools employ a part-time or full-time court liaison person. Persons receiving a first conviction for DUI, driving with a BAC  $\geq$  .10, or careless and reckless driving after drinking are technically eligible to participate in the program, which is supported by a mandatory registration fee of \$100 collected by either the clerk of the court or school. The fee is mandatory unless the student can demonstrate inability to pay. Ninety-five percent of the fee is retained by the school and five percent is used to support the statewide management of the ADETS program.

The individuals' primary incentive for attending the school is an earlier reinstatement of full driving privileges. In North Carolina there is a mandatory one year license revocation for first offense DUI with provision for the possibility of a limited license privilege during that time. Successful completion of ADETS within 90 days of conviction allows reinstatement of full driving privileges after six months.

## 2.2 Role of the State Level Program

With 41 area programs having a total of 88 schools and over 200 licensed instructors, the statewide program has a significant contribution to make in terms of general administration of the ADETS program, development and evaluation of compliance with standards, training of instructors, and providing feedback to local schools, and courts, as well as to the State legislature.

At the time of passage of the enabling legislation several local schools were in operation around the state, however their curricula were not consistent in format or content and schools were not in operation in all areas of the state. The first duties of the statewide program were to develop a model curriculum and certify existing schools. Basically, this had to be accomplished by January 1980.

The next major task for the state program personnel was and continues to be assistance in the development of new schools. The Regional DUI specialists (RDS) conduct pre-certification training sessions and work with school administrators until the school is operational. During its first months in operation the school receives frequent visits from the RDS.

The state program routinely receives only one form from local schools, the DMH 2604 referral form. This form (which appears as Appendix 2-B-1) provides

student information on course attendance and completion or failure. The State program also receives an annual report from each area program.

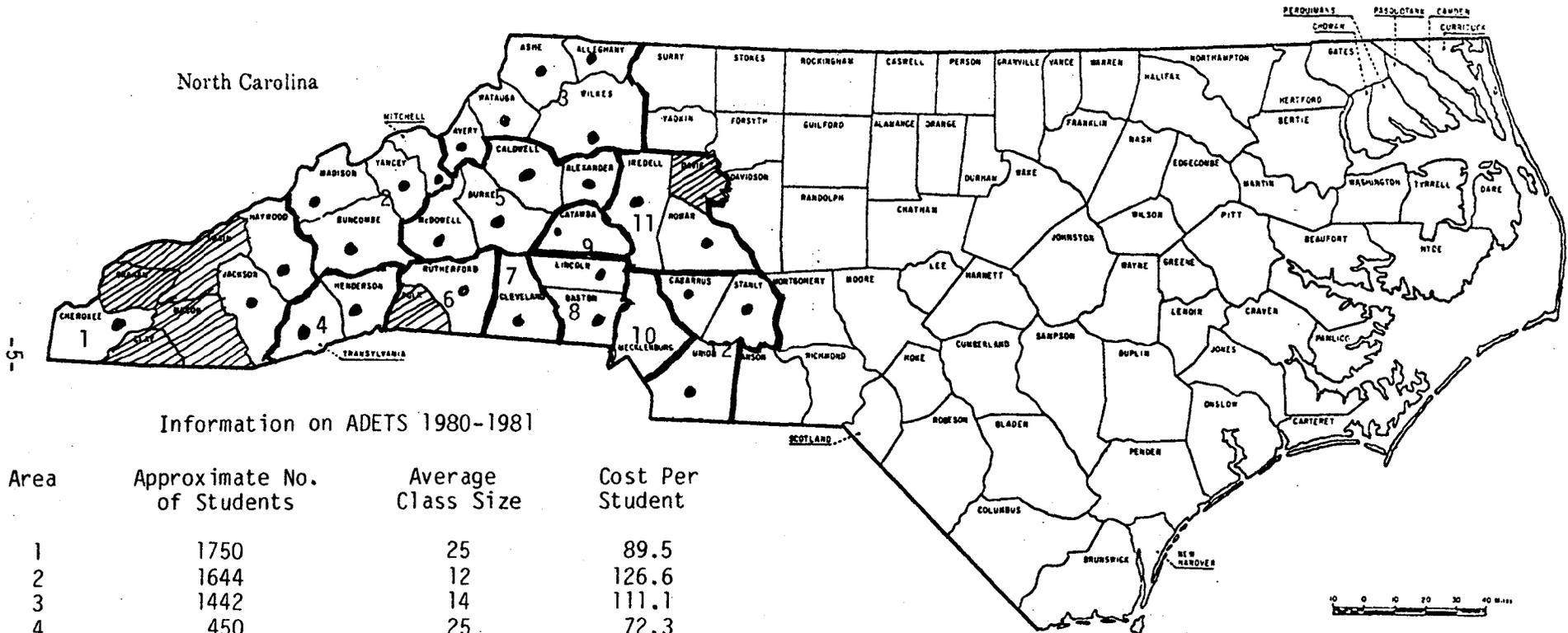
At the State level, systemwide problems are reviewed and dealt with. For example, many local schools were complaining about student transfer problems for violators convicted in one locale but who lived elsewhere and who preferred to attend a school near their home. Some schools were not forwarding student fees and other schools were not completing necessary documentation for the courts regarding course completion. In order to deal with these problems, the State program developed and distributed guidelines addressing student transfer procedures.

### 2.3 Description of the Overall State Level Program and Management Structure

2.3.1 Administration. The current statewide program administration is pictured in Figure 2.1. For ADETS administrative purposes the State of North Carolina is divided into the four regions, the same classification used by the Department of Human Resources. These regions are further subdivided into area programs containing one or more counties and usually one or more ADET schools. The distribution of the schools in each area and region is pictured in Figures 2.2-2.5. In most areas the schools are managed by their area mental health program. A few ADETS are run through a contract with public and private providers approved by the State program.

The state DUI Program Coordinator is responsible for interaction between individual area programs and for overall coordination of the curriculum. Two regional DUI specialists (RDS) are employed full-time, each responsible for two regions. The RDS promotes and initiates program advocacy with the local judiciary. Under the direction of the Raleigh-based program coordinator, the Regional DWI Specialists offer technical assistance in all phases of DWI

Figure 2.2: WESTERN REGION ADETS (I)



Information on ADETS 1980-1981

Area	Approximate No. of Students	Average Class Size	Cost Per Student
1	1750	25	89.5
2	1644	12	126.6
3	1442	14	111.1
4	450	25	72.3
5	2340	20	107.2
6	611	13	60.9
7	480	15	101.5
8	2254	23	81.6
9	1632	32	35.9
10	3666	26	90.6
11	2610	29	72.4
12	2160	18	69.5

• ADET School  
 ▨ County Without ADET School

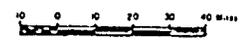


Figure 2.3. NORTH CENTRAL REGION ADETS (II)

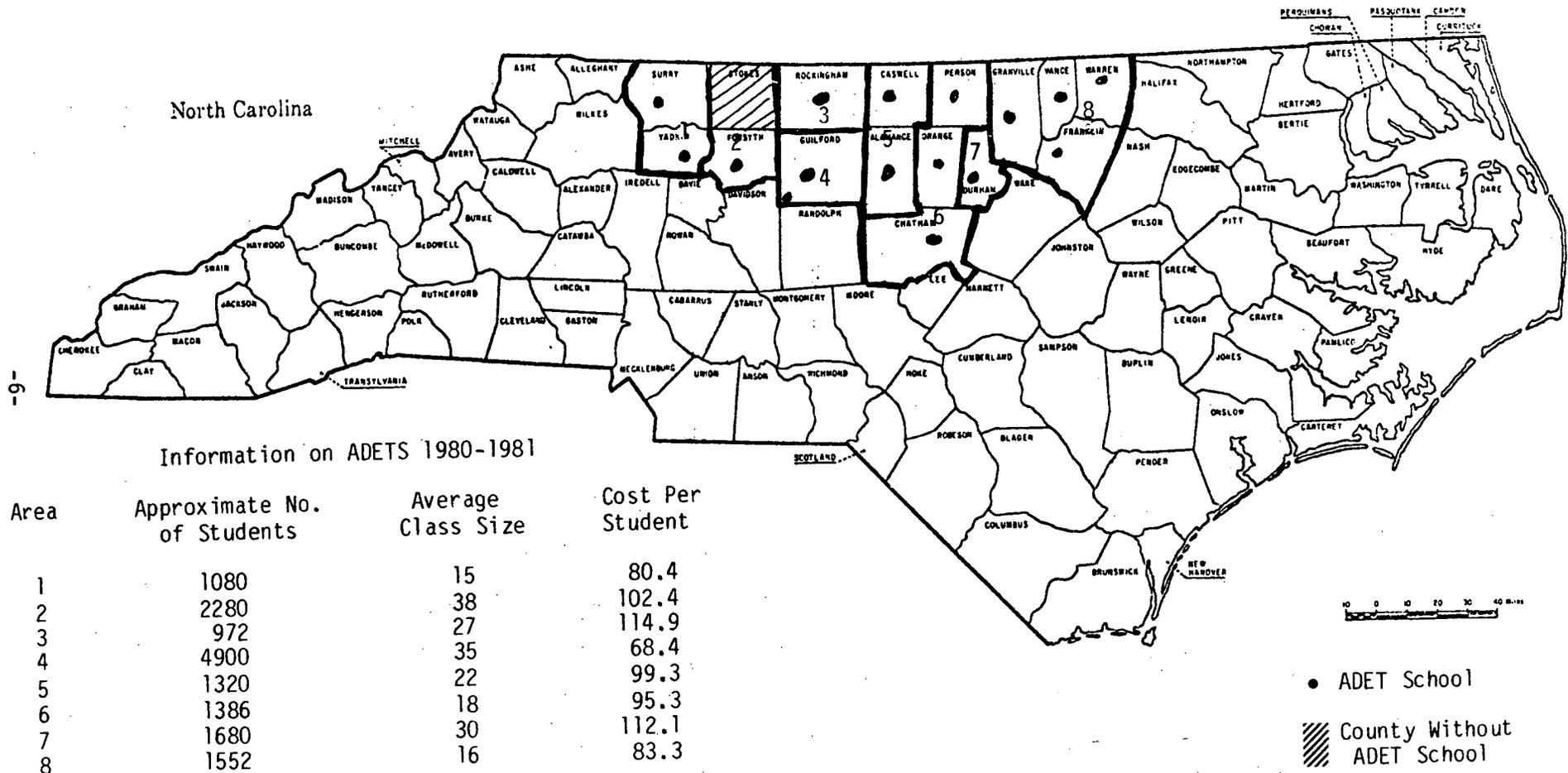


Figure 2.4. SOUTH CENTRAL REGION (III)

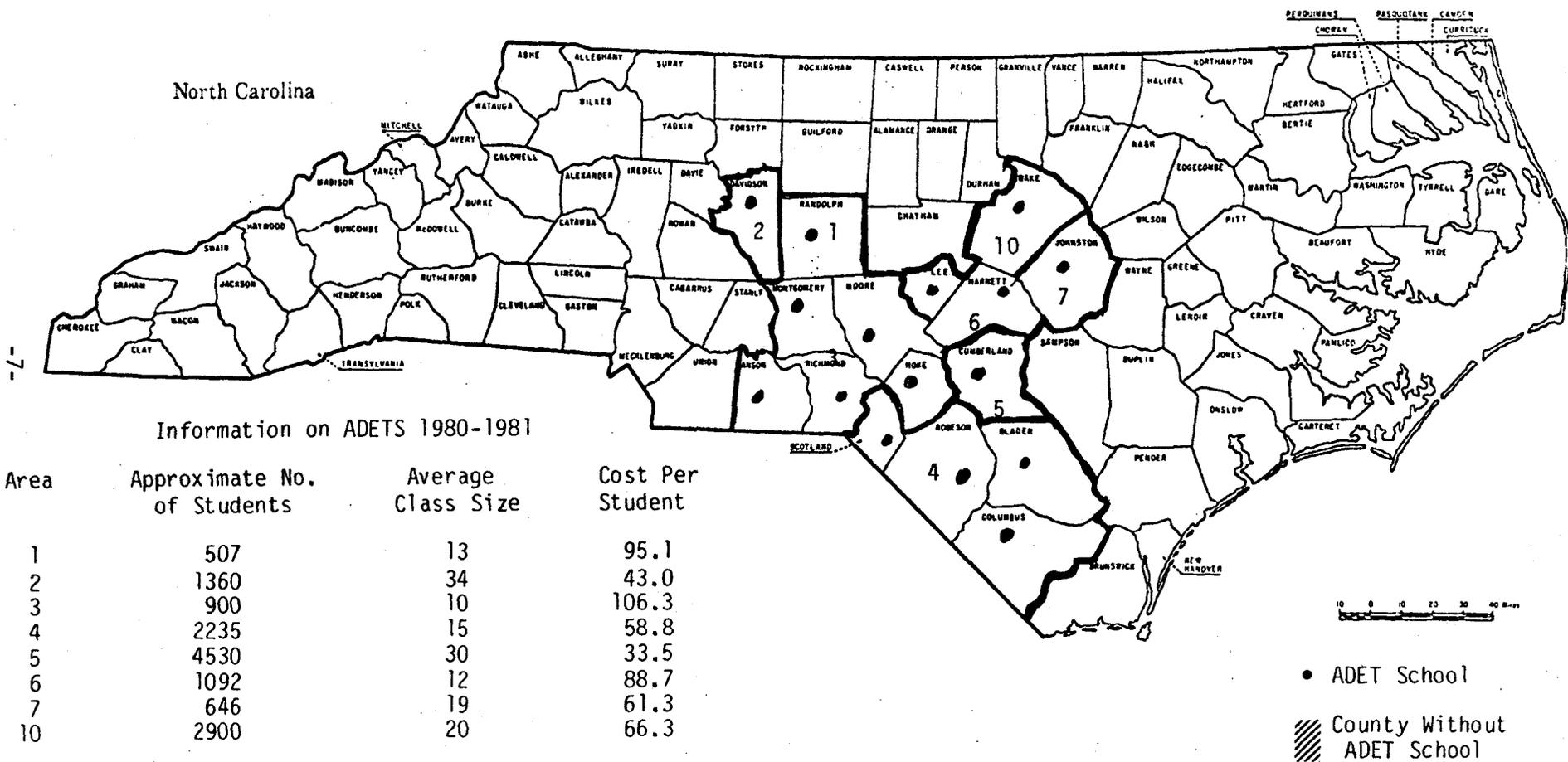
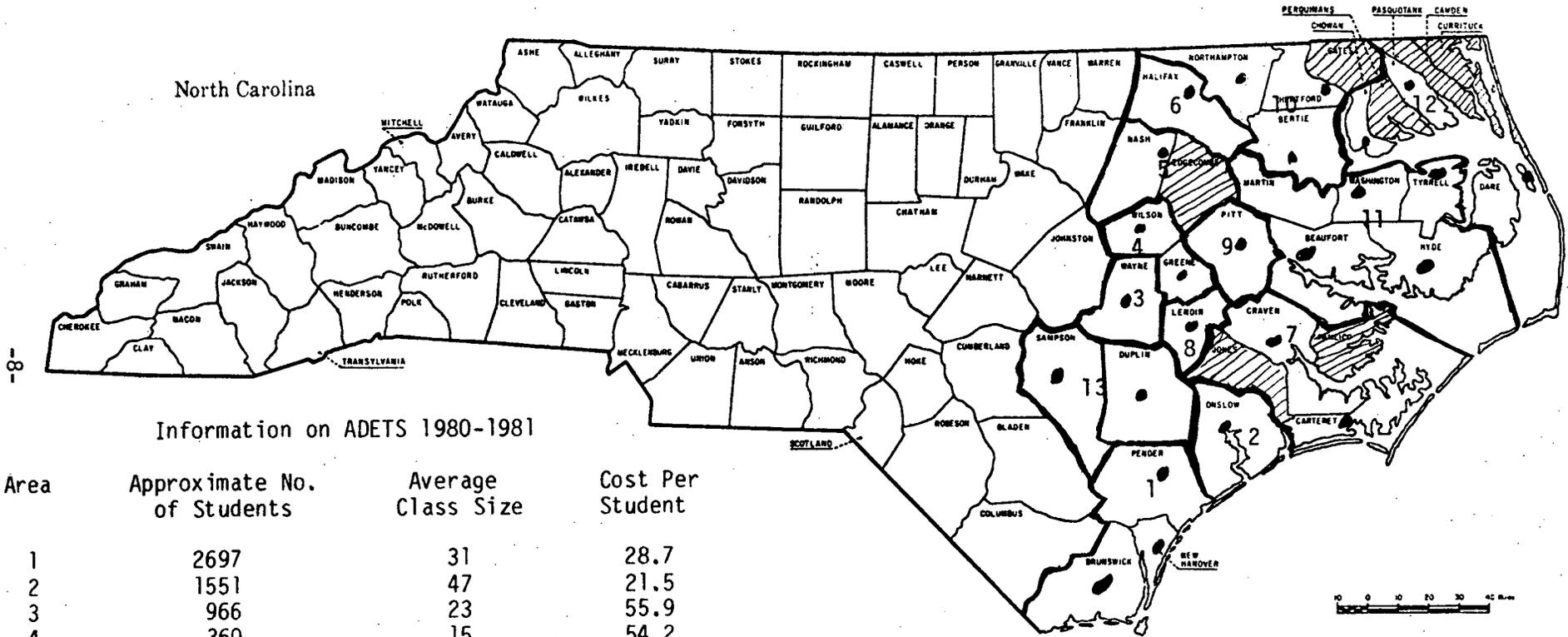


Figure 2.5. EASTERN REGION ADETS (IV)

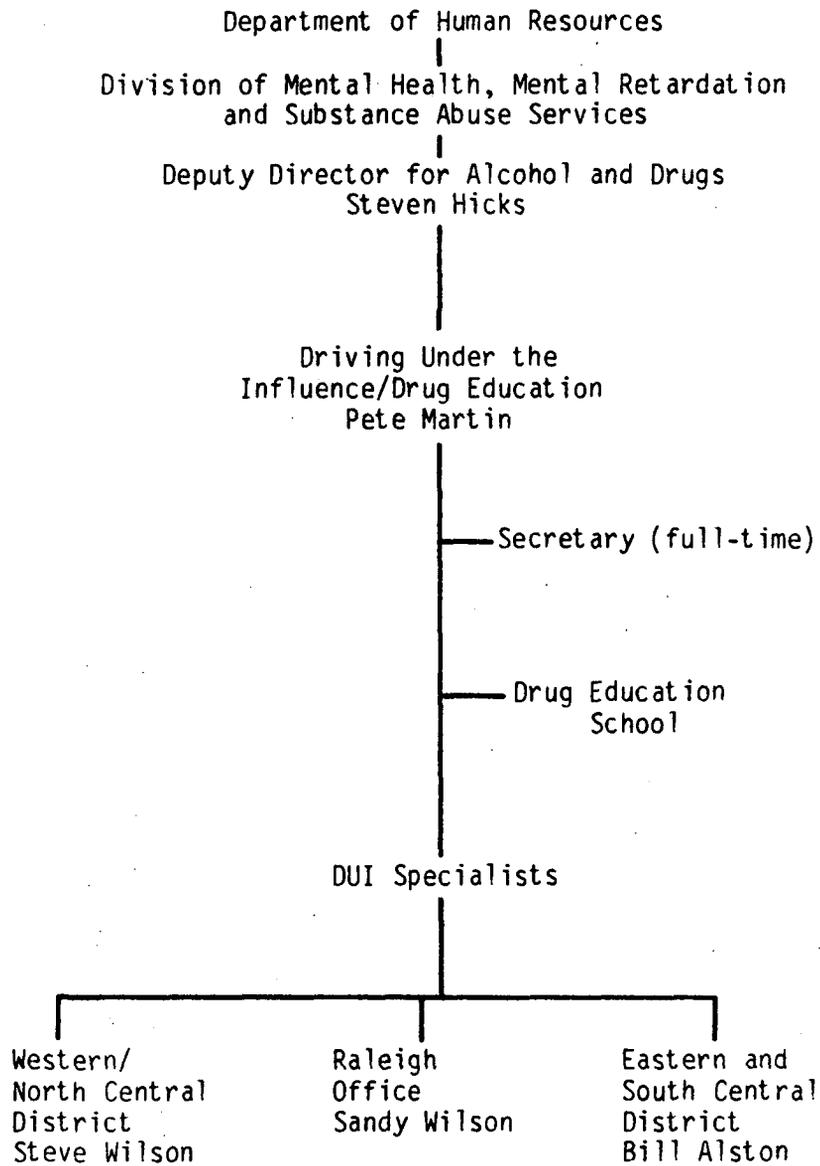


Information on ADETS 1980-1981

Area	Approximate No. of Students	Average Class Size	Cost Per Student
1	2697	31	28.7
2	1551	47	21.5
3	966	23	55.9
4	360	15	54.2
5	682	22	51.7
6	442	17	78.7
7	1464	24	84.1
8	912	24	85.2
9	1372	28	33.9
10	396	6	143.0
11	819	9	43.0
12	660	12	109.3
13	1350	15	67.8

- ADET School
- ▨ County Without ADET School

Figure 2.1



programming including the ADETS. They are sent to help start-up new schools. They work with citizen action groups and the court system. In addition, they are responsible for reviewing area schools' compliance with the law.

2.3.2 Certification and training of instructors. To be considered for certification as an ADETS instructor, two members of the Area Mental Health Program must certify that the candidate has sufficient training and experience in DUI-related work. (A copy of this form appears in Appendix 2-B-2.) If the candidate meets these requirements, he/she must complete a 12 hour pretraining course offered by the state program. For initial certification as an ADETS instructor, the candidate must observe and then teach classes under the supervision of a certified instructor.

Every two years ADETS instructors must be recertified. For recertification during the first two years, the instructor must have 48 hours of training and/or education in alcohol/drug related areas. For subsequent cycles, instructors need only complete 30 hours. Training of instructors is the responsibility of State program personnel who periodically holds two day training programs. A summary of the training class schedule and topics addressed is located in Appendix 2-B-3.

#### 2.4 Description of the Standards and Basic Curriculum for ADETS

The statewide program director is responsible for determining school accreditation based upon compliance with a number of minimum standards. In order to assure compliance with standards, the Regional DUI Specialist visits each school with a compliance checklist (ADETS Operating Standards) see Appendix 2-C-1. Revocation or suspension of accreditation may be issued for failure to comply with the division's area program standards, failure to

maintain certified instructors teaching the curriculum prescribed by the division, and failure to comply with designated accounting procedures.

When a particular school, area, or region is believed to be non-compliant, documentation outlining areas of non-compliance is provided to the school. The program negotiates with the school in order to set a reasonable time period in which they may correct their procedures to meet standards. (The most frequently reported non-compliance involves class size.)

A copy of the curriculum manual appears in Appendix 2-C-2. The manual was designed to guide the ADET school instructor in presenting the prescribed curriculum as required by Area Program Standards (10 NCAC 18B .1705). The manual is divided into seven sections including program goals and objectives, requirements and guidelines for class management, requirements and guidelines for class presentations, samples of required forms and instructions for their completion, pre and post knowledge questionnaire, a course critique for students, and a listing of resource materials for use in classroom presentations including such items as facts about N.C. Laws. Also included in the manual are the minimum materials which must be presented in each class session.

This is a prescribed curriculum and ADETS instructors wishing to make modifications must submit a written request through the appropriate area director's office to the regional DUI program specialist who confers with the State DUI coordinator regarding the request. At this time there have been no curriculum modifications formally requested.

2.4.1 Student matriculation. Upon first conviction for any DUI offense, an individual may be assigned to an ADET school by the trial judge. In accordance with the law, the judge may issue a limited driving privilege (LDP)

to the individual upon his/her request (North Carolina law requires suspension of the driving privilege by the Division of Motor Vehicles (DMV) for the period of one year for conviction on the first offense of DUI). When a person has had a DUI conviction seven or more years prior to this DUI conviction, for purposes of determining eligibility, the current conviction is considered to be his first. If the judge chooses to issue the limited privilege, he generally must require that the person enroll in and complete an ADETS course within 90 days (formerly 75 days) of the date of the issuance of the LDP. This limited driving privilege is valid for a length of time not to exceed six months. There are some circumstances in which a LDP may be granted without required attendance at the ADET school. In those cases, the LDP is issued for twelve months.

If the individual does not successfully complete the school, that is considered grounds to revoke the limited privilege for the remainder of the time for which the privilege was issued. The instructor reports noncompliance to the court which issued the LDP. At this time the court is supposed to revoke the limited privilege. The individual may obtain a hearing from a DMV hearings officer or court prior to revocation.

The individual must pay a fee of \$100.00 to the Clerk of the Court or area program to enroll in the school. In some instances, the court makes the decision that the person is unable to pay and waives the fee requirement. In these cases, the school must absorb the cost of non-paying attendees.

Class size is limited to 35. The individual may, with the permission of the instructor, take his family members and other non-students to ADETS classes provided the class size will not exceed 35.

The student must attend all sessions of the school although with a satisfactory excuse the individual may make-up a missed class. With regard to

excused absences, it is left to the discretion of the individual school to determine excusing protocol. If the student misses a class or classes and makes it (them) up within 90 days, they are not reported as failing. If the class is not made up within the 90 day period, the individual must go back to court to receive an extension from the judge or the DMH 2604 is marked "non-compliant". In this case a new DMH 2604 is prepared when extension of time is granted by court or fee is paid after 90 days and the school chooses to change non-compliance to compliance. When found non-compliant, the individuals' limited driving privilege may be revoked. The courts may issue a "show cause order" but only a letter is sent by DMV to the student following notification by court to DMV that the LDP has been revoked.

Students are given a knowledge test prior to the first and after the final class in order to evaluate information transfer. There is no failure if all classes are attended. On the other hand, student misbehavior, including intoxication at the class, constitutes grounds for expulsion.

After completion of the course, a form is forwarded to DMV through the DUI coordinators' office and the courts. Upon payment of a \$25 restoration fee, the individual's license is returned at a point in time at least six months after conviction.

## 2.5 Documentation of the Number of Schools, Geographic Distribution and Availability to Potential Clients

2.5.1 Number of schools. Prior to the inception of the Statewide program there were 35 alcohol rehabilitation type schools in operation in North Carolina but there was no established supra network to coordinate all their efforts. As mentioned, today's schools are part of a statewide program which has had as its objective the certification that all of the 88 existing schools

meet certain standards. The State program compiles statistics on all of its schools and programs. A summary of some of the State collected information is contained in Figures 2.2-2.5 which show regional programs. Each map contains the school location and area program catchment area for each region. Typed onto the map are summary statistics through September 1982. They indicate the approximate number of students, the total direct and indirect costs of the program, estimated class size and approximate cost per student.

The county of residence listing of persons who were eligible to participate in the program is presented in Table 2.1.

## 2.6 Attendance at ADET School

Personnel from HSRC attended an operating ADET school. The information contained herein pertains to only this school and should not necessarily be taken to be representative of every school.

A student usually hears about the school at the court when the referral to ADETS is made. The court liaison person talks with the potential student about attendance rules and other participation regulations, and the individual is allowed to select the preferable class time and location. In the school visited, the student pays the \$100 registration fee to the clerk of court.

The ADETS instructor receives a roll sheet with the following descriptors on class participants:

- Name
- Payment status
- Docket no.
- Charge
- No. of conviction

Classes we elected to observe began on the first Friday of the month and were held each consecutive Friday for four weeks between the hours 11-2:00. Classes began punctually but for a variety of reasons were dismissed early.

Table 2.1. Percentages of persons eligible for assignment to ADETS schools and who were assigned by county of arrest.

County of Arrest	1980	1981
Alamance	70.2	75.3
Alexander	86.4	87.8
Alleghany	69.2	48.5
Anson	58.3	63.2
Ashe	73.8	55.4
Avery	77.4	84.6
Beaufort	69.5	66.5
Bertie	39.5	41.4
Bladen	84.0	84.0
Brunswick	83.9	87.3
Buncombe	74.6	66.5
Burke	86.8	88.8
Cabarrus	81.3	76.2
Caldwell	85.9	89.6
Camden*	75.0	64.3
Carteret	66.2	77.9
Caswell	57.7	61.4
Catawba	80.4	82.9
Chatham	72.1	84.8
Cherokee	66.7	70.0
Chowan	45.2	59.4
Clay*	75.0	46.2
Cleveland	62.0	67.8
Columbus	81.8	75.4

\*Counties without ADETS located in the county but which refer students to adjoining counties.

Table 2.1. Percentages of persons eligible for assignment to ADETS schools by county of arrest. (con't)

County of Arrest	1980	1981
Craven	65.7	74.9
Cumberland	84.3	84.3
Currituck*	39.5	57.8
Dare	56.5	61.8
Davidson	87.0	81.9
Davie*	73.9	81.2
Duplin	67.2	61.1
Durham	86.7	89.0
Edgecombe*	43.0	43.2
Forsythe	80.9	86.9
Franklin	50.8	56.9
Gaston	81.9	75.5
Gates*	47.7	54.2
Graham*	70.8	80.7
Granville	58.8	62.6
Greene	75.8	77.0
Guilford	76.1	80.2
Halifax	30.3	34.8
Harnett	72.8	74.3
Haywood	68.6	72.3
Henderson	79.4	83.5
Hertford	37.0	52.9
Hoke	64.0	71.2
Hyde	76.0	68.0

\*Counties without ADETS located in the county but which refer students to adjoining counties.

Table 2.1. Percentages of persons eligible for assignment to ADETS schools by county of arrest. (con't)

County of Arrest	1980	1981
Iredell	86.8	85.6
Jackson	75.4	82.9
Johnston	71.2	74.8
Jones*	58.6	48.4
Lee	76.9	76.5
Lenior	72.9	69.7
Lincoln	71.2	63.4
Macon*	78.7	78.2
Madison	76.5	88.1
Martin	58.1	68.5
McDowell	87.2	88.8
Mecklenburg	79.1	81.6
Mitchell	85.2	84.6
Montgomery	70.5	84.0
Moore	46.4	50.9
Nash	31.2	37.6
New Hanover	71.6	80.1
Northhampton	31.1	31.3
Onslow	31.6	38.2
Orange	78.0	78.9
Pamlico*	55.6	82.8
Pasquotank	45.8	50.7
Pender	77.5	68.0
Perquimans*	58.6	57.1

\*Counties without ADETS located in the county but which refer students to adjoining counties.

Table 2.1. Percentages of persons eligible for assignment to ADETS schools by county of arrest. (con't)

County of Arrest	1980	1981
Person	68.8	78.3
Pitt	69.2	84.8
Polk*	80.0	78.4
Randolph	85.9	84.3
Richmond	58.6	46.9
Robeson	73.1	69.9
Rockingham	63.9	68.9
Rowan	80.6	76.2
Rutherford	80.5	84.6
Sampson	61.6	56.9
Scotland	70.2	70.0
Stanley	62.2	68.1
Stokes*	58.0	68.4
Surry	71.9	73.2
Swain*	54.1	61.7
Transylvania	87.2	71.4
Tyrrell	50.0	66.7
Union	60.0	62.5
Vance	62.3	68.6
Wake	60.9	71.2
Warren	48.0	61.3
Washington	69.6	57.6
Watauga	88.6	87.2
Wayne	69.6	69.9

\*Counties without ADETS located in the county but which refer students to adjoining counties.

Table 2.1. Percentages of persons eligible for assignment to ADETS schools by county of arrest. (con't)

County of Arrest	1980	1981
Wilkes	67.5	47.5
Wilson	48.6	58.6
Yadkin	66.7	50.3
Yancey	82.4	77.3
Total	71.6	72.0

The instructor was highly effective and non-accusatory. During the four sessions, the instructor covered all pertinent materials. Audio visual presentations were very good. Included in these presentations was a video tape of a young male who discussed his feelings about a DUI-related accident in which two of his friends were killed.

Initially the class participants seemed hostile but good instructor interaction and stimulating films seemed to encourage student participation in discussions about alternative choices they could make with regard to both drinking and driving after drinking. Moreover the instructor remembered some of the circumstances of arrest mentioned by students during their first class and was consequently able to discuss alternative options they might have used.

At a post class interview, the instructor of our class expressed belief that the course could be more beneficial if there were time to discuss the impact of life style in drinking and driving more fully.

## 2.7 Public Information and Advocacy

The State Level Program has distributed the following types of information to participating schools:

- o Information about citizen action groups
- o Copies of the Alcohol Task Force findings
- o Information about NHTSA and other federal emphasis in the area
- o Fliers and packets on such topical subjects as youth and drinking and driving, substance abuse
- o Films dealing with drinking and driving

Thus, the main thrust of the state level program is to keep member schools apprised about major issues in the state and nation.

In addition, the state encourages participating schools to become advocates within their own communities. Meeting with members of the judiciary enables reciprocal feedback regarding the drunken driver problem and more specifically about the ADETS program. Many communities' ADETS personnel have worked with law enforcement personnel and high school driver education teachers.

The state program has worked to meet the needs of a developing statewide alcohol/drug program. Recognizing that there are different types of drinking drivers, several area programs have developed special programs for dealing with multiple offenders. There are currently 35 such programs in North Carolina. An attempt is now being made to assure uniformity of programs and standards through publication of a pamphlet recommending practices for these programs.

### 3.1 ANALYSES OF KNOWLEDGE TEST

#### 3.1 Introduction

A knowledge test is administered to ADETS attendees prior to the first class session and after the final session. Analyses were conducted to provide a measure of knowledge change as a result of attending the ADETS course, to identify content areas where the course as taught is most and least effective in transferring information, and finally to assess the performance of each item in relationship to the total test.

#### 3.2 Data Collection Procedures

All 88 ADETS schools were requested to send in their pre and post knowledge test forms for students who completed the ADETS course during the second quarter (April through June 30) of 1981. However, since there is no requirement that they retain the actual test forms, not all schools were able to provide the actual test forms. Twenty-one schools sent in their test scores only. Out of the 88 schools, only 58 schools submitted pre and post knowledge tests which were in usable form. The remaining nine schools fall into categories of no response, submitted different test forms or submitted test forms which could not be identified by its school.

Based on the usable data received from the 58 schools, a sampling plan was developed to select schools which represent the four regions (Western, North Central, South Central and Eastern) of the state, and also rural and urban areas. Consequently, a sample of 24 schools was drawn from the 58 schools. This sample was determined to be representative of the different areas of the state and of a sufficient size for conducting the knowledge test analyses.

### 3.3 Creation of Analysis File

An analysis file (N=1594) was created using tests submitted by this sample of 24 schools. Even among this sample of 24 schools, not all tests could be used because some were missing the post tests and some tests were illegible. Table 3.1 shows the breakdown of the schools in the sample by the four regions of the state and within a rural-urban classification. The number appearing below the school name in parenthesis represents the number of complete sets of tests used for a particular school. There was no test received from the South Central, urban category because there are only two schools in that category and they both submitted test scores only.

The entire analysis file was used in most of the test analyses. However, in the analyses involving region, locality (rural-urban) and class size variables, seven more schools were excluded mostly because of their small numbers but also to balance the numbers in the rural-urban comparison.

### 3.4 Analysis Procedures

Two sets of analyses were performed, mainly those involving analyses of the test scores and analyses pertaining to item characteristics (e.g., difficulty levels) of the test.

3.4.1 Analyses of Test Scores. Pre and post percentage test scores were compared in several different manners. First, the total test was used and then items covering different content areas (see Appendix 3-A) were also compared. For the latter analysis, the 27 items were grouped into five different content areas (general, effects of alcohol, DUI law, alcohol ingestion and blood alcohol level, and drugs). Finally, pre and post percentage test scores were compared for the different regions of the state, for rural and urban areas and for classes of two different sizes (below 20 vs. equal to or greater than 20). As explained earlier, this analysis included 17 instead of 24 schools.

3.4.2 Analyses of Item Characteristics. Response distributions were determined for each item for both pre and post tests. They show the percentage of students choosing a particular alternative from each question. From the response distributions, the item difficulty levels could also be determined. Item difficulty represents the proportion of students answering an item correctly. Ideally, a test should be made up of items which are of medium difficulty (neither too easy nor too difficult). If the course brings about knowledge gain, the proportion of students answering correctly on test items should increase from the pre to the post tests.

To obtain more detailed information regarding the performance of each individual item on the tests, four percentages were calculated for each item: (1) proportion of students answering incorrectly on both tests; (2) proportion of students answering incorrectly during the pre test but correctly on the post test; (3) proportion of students answering correctly on pre test but incorrectly on the post test; and (4) proportion of students answering correctly on both tests. The first and third percentages will provide information regarding the weak areas of the curriculum because they indicate items or content areas which show either no change or negative change after the course. In contrast, the second percentage figure shows the strengths of the curriculum, the areas which demonstrate the greatest amount of knowledge gain. Finally, the fourth percentage reflects more an item characteristic rather than the course. Extremely high or low proportions of students being correct on both tests indicate the items as being either too easy or too difficult. Although the four sets of percentages are related to each other and to other item characteristics, they do provide slightly different types of information regarding the usefulness of each item and jointly they provide valuable information regarding the item's role in the overall test.

### 3.5 Results

3.5.1 Analyses of Test Scores. Overall test score for the pre test is around 56 percent while for the post test, it increases to 76 percent, resulting in a gain of about 20 percentage points between the two test administrations (Tables 3.2A and 3.2B). This represents a 38 percent increase in knowledge.

In terms of different topics covered by the test, larger gains were observed for the General, DUI Law and the Drug areas. When statistical comparisons were performed on the pre and post percentages, all comparisons (that is, all areas of the test as well as the total test) show the differences to be statistically significant at .01 level, implying that the probability is less than one percent that the obtained differences were due to chance. Thus, it could be concluded that significantly higher test scores were found after the course than before the course. This was especially true for the General, DUI Law and Drug Items. However, if the number of items in a particular area was taken into consideration, then largest percent gain was found for the Alcohol Ingestion and Blood Alcohol level area. Therefore, caution should be exercised when interpreting the results of the different content areas because the number of test items varies from one content area to another. A possible explanation for the larger differences observed for these three areas is that they all show a much lower pre test score. Even with the bigger increases, post test scores on these three areas are still lower than the post test scores in the remaining two areas (Effects of Alcohol, Alcohol Ingestion and Blood Alcohol Level). Thus, prior to and after ADETS, students were not as knowledgeable in the General, DUI Law and Drug areas.

When pre and post test differences were compared across the four regions of the State, students from the Western and South Central regions were found to increase their test scores more after the course than students from the North

Central and Eastern regions (Table 3.3A). Furthermore, the gain for the South Central region was significantly more than those observed for the North Central and Eastern regions (Table 3.3B). Significantly larger increases were also found for students in the rural schools as compared to students in urban schools.

However, in both the region and locality comparisons, the obtained larger increases could also be attributed to the lower pre test scores of those groups. Students from the North Central region and students from urban schools still have higher post test scores, indicating that they were more informed prior to and after the ADETS course than the other students.

The most significant finding appears to be related to the class size variable. Students from schools with an average class size below 20 scored much higher on the post test than students from schools conducting larger classes (with at least 20 students), even though the former group scored lower on the pre test. The knowledge gain for the smaller classes was significantly higher than that of the larger classes (Table 3.3B). Thus, although less knowledgeable at the beginning of the course, students in these smaller classes became more knowledgeable after the ADETS course. It therefore appears that the ADETS course should be conducted in small groups (not more than 20) in order to most effectively transmit the information to students.

3.5.2 Analyses of Item Characteristics. Response distributions (percentages of students picking each alternative in an item) were obtained for all 27 items of the pre and post tests (Table 3.4). On the pre test, difficulty levels of the items range from 20 to 96 percent while the range for the post test is between 58 and 96 percent. The more restricted range on the post test indicates that items appear to be less difficult after the course than before the course.

Although there are differences across the items in the magnitude of change, in every instance, an improvement was observed for every item in the post test, that is, there were higher proportions of students answering the items correctly during the post test. However, in four instances (#14, 20, 21 and 24) the magnitude of this change is small, just a few percentage points. However, a high proportion of students answered these items correctly during the pre test. Consequently these items could be considered as too easy as most students could get them right even before the course. On the other hand, items 3 and 8 could be considered as too difficult for the students. Only about 20 percent of the students answered them correctly before the course and about 40 percent of them still could not get them right after the course.

About half (1, 2, 5, 6, 10, 12, 14, 15, 16, 17, 18, 19, 21) of the items on the test contain alternatives which were seldom chosen by the students (by less than 10 percent). When this situation occurs, it in effect reduces the number of choices available for an item. For example, item 5 is practically a two choice instead of a four choice item because choices A and C are not considered as likely choices. Likewise, item 21 becomes a one choice item only because hardly anybody chose the "false" alternative. From the standpoint of test construction principles, if an incorrect choice is seldom selected, the probability of selecting the correct answer is increased and the test item does not discriminate as well between more and less knowledgeable subjects.

Four additional percentages (proportion of being incorrect on both tests, proportion of being incorrect on pre test but correct on post test, proportion of being correct on pre test but incorrect on post test and proportion of being correct on both tests) were computed to provide more detailed information on the items or on the specific topics in the curriculum covered by the items (Table 3.5).

The first proportion, that of being incorrect on both tests, indicates items which show no benefit after the course. Items 3, 8 and 9 fall into this category. For these items, some revision on the items may be helpful. Furthermore, more emphasis could be placed in the course on the topic covered by these items. The proportion of being incorrect on pre test but correct on post test indicate areas of improvement as a result of the course. Ten (#1, 3, 5, 8, 10, 13, 19, 23, 25 and 26) out of 27 items show an improvement of at least 35 percent. It appears that the course has successfully addressed the topics covered by these items.

An area of concern is represented by those items showing a high proportion of being correct on the pre test but incorrect on the post test, that is, a decrease in performance after the course. Fortunately, on most items of the test, this proportion is low, with the mode being around five percent. However, items 15, 16 and 18 might need revising because their proportions are quite a bit higher than the remaining items. It should be noted that items 16 and 18 utilize combination choices, thus these two items may turn out to be too complicated for some of the students, especially if they have difficulty reading.

Another indication of item difficulty is represented by the proportion of being correct on both tests. A high proportion indicates an easy item and vice versa. Basically, this information is consistent with what was obtained in Table 4 before. Items 6, 14, 20, 21 and 24 are relatively easy items while items 3 and 8 are considerably more difficult.

### 3.6 Summary

In summary, the analyses of knowledge test scores show an improvement in knowledge (an increase of 38 percent) after the ADETS course. The improvement

was more pronounced for the General, DUI Law and Drug areas. However, if the area gain score is weighted by the proportion of items in each area, then the Alcohol Ingestion and Blood Alcohol level area was found to provide the largest percent gain.

Students from the Western and South Central regions, as well as the rural areas also show more improvements. However, the above results need to be interpreted with caution because these subgroups also scored lower on the pre test. Thus they had more opportunity for improvement. Even with greater improvement, their post test scores are still lower than the other subgroups. Thus the greater improvements of these subgroups could be partly attributed to the characteristics of the student population themselves.

The most significant gain in knowledge was observed for students from schools with smaller (< 20) class sizes. These students had lower pre test scores but scored higher on the post tests than did students from schools with larger class sizes. Thus, it appears that it may be more beneficial to conduct the ADETS course in groups not larger than 20 students.

Analyses of item characteristics provide the following information regarding the performance of the test items. Four (#14, 20, 21 and 24) items were too easy while two (3 and 18) items were too difficult. For test items to differentiate performance at different levels, they should not be too easy or too difficult. About half of the items on the test contain choices that are seldom selected, indicating that they have not been considered as likely answers to the question. These choices need to be revised in order to preserve the original number of choices for the item. The content of three items (#15, 16 and 18) need to be reviewed more critically as these items show a decrease in performance from pre to post test. Although there are a number of good items on the test (e.g., 4, 7, 11, 13, 22, 23, 25, 26 and 27), many of the other items

need revision to strengthen their use as an evaluation tool for the ADETS course. In addition, the following guidelines should be considered in revising the test.

1. Only multiple choice items should be used. True-False items introduce too large an element of chance. There should be at least four choices for each item.
2. The reading level of the test should be lowered to about sixth grade if possible.
3. If possible, items with combination choices should be avoided.
4. Each answer choice should be selected by a reasonable proportion of the students on the pre test (+ 10 percent). Otherwise, the choice is not functioning properly and the item for all practical purposes has fewer plausible choices. Consequently, the probability of guessing the correct answer is increased.
5. Ideally there should be more than one version of the test with each form covering the same areas of knowledge and all forms equivalent in difficulty.
6. After revision, the test should be subjected to further evaluation to validate the modified items.

Attachment B shows the specific characteristics of each item and can be used as a guideline in modifying and revising the test.

It should be recognized that because of time and other constraints in implementing the ADETS program, the knowledge test instrument being used was not developed on the basis of established test construction principles and therefore there are serious limitations on the extent to which the findings from the analyses can be interpreted. Should the State wish to develop an instrument that can provide a more valid estimate of the extent to which the ADETS program modifies the knowledge demonstrated by the students, it will be necessary to address a number of additional test characteristics, including the following:

1. Item versus test correlation - If an item is being answered correctly by students who do poorly on the overall test and, conversely, answered incorrectly by students who do well on the overall test, then the item is not a good one.

2. Item and test reliability - If an item is just as likely to be answered one way as another by the same students when there has been no intervention, then the item is not a good one. Likewise, if performance on a test does not show consistency from one administration to another when there has been no intervention, then the test is not reliable and is therefore not useful.
3. Criterion validity - An item should have a demonstrable relationship to whatever the test is supposed to measure, in this case knowledge about alcohol and driving performance.
4. Face validity - In addition to having a positive relationship to the criterion, an item must also "make sense" to the student.
5. Relationship to the content of the course - Each item should be covered in the course in order for the item to be considered fair.

The present analyses were undertaken with the recognition that the test instrument in use has not been demonstrated to meet these standards of test construction, and the results of the analyses must be interpreted with these limitations in mind.

Table 3.1. Breakdown of Schools in the Analysis File

<u>Western</u>		<u>North Central</u>		<u>South Central</u>		<u>Eastern</u>	
<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>
Ashe* (10)	Cabarrus (171)	Chatham (26)	Forsyth (296)	Anson* (11)		Beaufort (32)	Pitt (143)
Catawba (200)		Person (35)		Columbus (75)		Dare (28)	Pasquotank (70)
Cleveland (82)		Granville (46)		Hoke* (11)		Hyde* (8)	
Rutherford- Polk* (59)		Vance (77)		Montgomery (28)		Tyrrell* (2)	
				Moore (29)		Washington* (11)	
				Richmond (21)		Wayne (123)	
<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
351	171	184	296	175	0	204	213

\*These counties were excluded from certain analyses due to their small numbers and also to balance the rural-urban comparisons.

Table 3.2A. Analysis of Mean Percentage Test Scores

	<u>Pre Test</u>	<u>Post-Test</u>	<u>Difference</u>
General (N=5)	46.8	72.8	26.0
Effects of Alcohol (N=5)	63.0	74.5	11.5
DUI Law (N=4)	40.6	68.6	28.0
Alcohol Ingestion & BAC (N=10)	68.4	85.4	17.0
Drugs (N=3)	38.7	67.1	28.4
Total Test (N=27)	56.0	76.5	20.5

\*All pre test/post test differences were significant at  $p < .01$ .

Table 3.2B. Analysis of Percentage Gain Scores

	Unadjusted Gain Score	Adjusted* Gain Score	Percent Gain
General	26.0	4.81	23.4%
Effects of Alcohol	11.5	2.13	10.3%
DUI Law	28.0	4.15	20.2%
Alcohol Ingestion & BAC	17.0	6.30	30.7%
Drugs	28.4	3.16	15.4%
Total	20.5		100%

\*Gain scores were weighted by the proportion of items in each area to the total number of items in the test (i.e. 5/27 for general and effects of alcohol areas; 4/27 for DUI law area; 10/27 for Alcohol Ingestion and BAC area; and 3/27 for Drugs area).

Table 3.3A Mean Percentage Test Scores for the Total Test.\*

	<u>Pre Test</u>	<u>Post Test</u>	<u>Difference</u>
<u>Region</u>			
Western	52.6	74.3	21.7
North Central	61.8	81.9	20.1
South Central	51.7	75.2	23.5
Eastern	54.6	74.6	20.0
<u>Locality</u>			
Rural	53.4	75.9	22.5
Urban	59.1	78.1	19.0
<u>Class Size</u>			
< 20	53.9	78.4	24.5
> 20	58.0	75.5	17.5

\*Excludes schools in Ashe, Rutherford-Polk, Anson, Hoke, Hyde, Tyrrell and Washington Counties.

@All pre test-post test differences were significant at  $p < .01$ .

Table 3.3B. Knowledge Gain Comparisons.

	<u>Difference Between Knowledge Gains</u>
<u>Region</u>	
Western vs. North Central	1.72
Western vs. South Central	1.76
Western vs. Eastern	1.74
North Central vs. South Central	3.48*
North Central vs. Eastern	0.02
South Central vs. Eastern	3.50*
<u>Locality</u>	
Rural vs. Urban	3.50*
<u>Class Size</u>	
Small vs. Large	7.00*

\*Significant pairwise T comparisons,  $p < .05$ .

Table 3.4. Response Distributions and Item Difficulties of Knowledge Test.\*

	A	B	C	D	E	F	T
1	14/8	37/72	42/18	7/2			
2	66/77	14/9	13/8	7/5			
3	27/7	20/58	36/21	17/13			
4	9/5	12/7	13/7	65/80			
5	4/3	47/12	4/4	45/81			
6	7/1	12/1	78/96	3/1			
7	25/11	59/80	7/6	9/3			
8	54/27	17/10	21/59	8/4			
9	9/8	19/10	38/61	34/21			
10	21/8	6/3	48/78	25/10			
11	10/5	13/5	7/14	69/77			
12	6/3	9/6	10/7	74/84			
13	11/4	52/83	17/5	20/7			
14	1/1	5/4	7/5	1/1	86/89		
15	5/3	2/3	69/74	2/1	22/19	0/0	
16	8/6	12/7	5/4	55/62	20/21		
17	40/64	9/7	2/2	17/9	27/11	5/7	
18	14/7	9/9	2/1	59/69	16/14		
19	4/1	13/5	54/83	13/6	16/5		
20						9/6	91/94
21						4/3	96/97
22						28/12	72/88
23						38/81	62/19
24						91/95	9/5
25						67/38	33/62
26						36/73	63/27
27						51/70	49/30

\*Table entries indicate percentage of students choosing a particular answer. The first percentage is for pre test, followed by that of the post test. Missing answers, multiple or unacceptable answers were excluded in this percent computation.

Table 3.5. Knowledge Change Between Pre and Post Tests.

<u>Item</u>	<u>Incorrect on Both Tests</u>	<u>Incorrect on Pre Test Correct on Post Test</u>	<u>Correct on Pre Test Incorrect on Post Test</u>	<u>Correct on Both Tests</u>
1	24.3%	38.7%	4.1%	32.9%
2	16.3%	18.6%	7.1%	58.0%
3	36.9%	42.9%	5.3%	14.9%
4	11.9%	23.3%	7.9%	56.8%
5	13.9%	41.0%	5.0%	40.0%
6	2.6%	20.3%	1.9%	75.2%
7	12.6%	29.2%	8.3%	49.9%
8	37.4%	41.8%	4.3%	16.4%
9	36.2%	27.1%	3.9%	32.8%
10	17.4%	35.8%	5.3%	41.5%
11	15.6%	17.1%	8.0%	59.2%
12	9.9%	18.3%	7.5%	64.3%
13	12.5%	37.4%	5.3%	44.8%
14	6.3%	10.0%	5.3%	78.4%
15	15.9%	17.1%	10.9%	56.1%
16	24.6%	22.6%	13.7%	39.1%
17	30.0%	30.9%	6.5%	32.6%
18	19.6%	22.1%	12.0%	46.3%
19	11.7%	35.6%	6.1%	46.5%
20	2.2%	8.0%	5.3%	84.5%
21	0.8%	5.2%	2.8%	91.2%
22	8.0%	21.8%	5.0%	65.2%
23	17.0%	45.7%	3.2%	34.1%
24	2.3%	8.7%	3.8%	85.3%
25	30.6%	37.9%	8.3%	23.1%
26	22.4%	42.3%	6.2%	29.0%
27	22.5%	28.1%	8.7%	40.6%

#### 4. DOCUMENTATION OF TARGET GROUPS AWARENESS AND PERCEPTIONS OF THE ADETS PROGRAM

##### 4.1 Introduction

A number of surveys were conducted to obtain target groups' opinions and perceptions regarding the different aspects of the ADETS program, and to obtain their suggestions for improving the ADETS program. These target groups were: judges; district attorneys; defense attorneys; superior court clerks; court liaison personnel; enforcement personnel; mental health administrators; instructors; students; and concerned citizens.

##### 4.2 Construction of Questionnaires

A total of 40 questions (Appendix 4-A) were developed to measure target groups' perceptions concerning at least 12 different aspects of the ADETS program: awareness of ADETS; fairness of the program; opinions regarding other groups' perception of ADETS; ADETS as a sentence reduction or educational measure; reactions to ADETS course content; referral and administrative activities; follow-up activities on non-compliance; transfers; fee collections; need for a separate multiple offender program; effectiveness of ADETS in deterring drunk driving; and suggestions to improve the ADETS program.

Since the responsibilities and activities vary from one target group to another, individual questionnaires were devised for each target group using different combinations of the 40 questions. Each group was asked to answer only questions that have relevance for them. For example, only instructors and students were asked questions concerning course content, while mental health administrators (area directors) were asked about adequacy of fee to cover the program's cost. However, there were a number of general questions such as, "To what extent do you think the ADETS program has been used as an educational tool?" or, "How effective do you feel the ADETS program is in deterring drunk driving in North Carolina?" that all groups were asked. Appendix 4-B shows the

number of questions used for each of the ten questionnaires. Five target groups had about 20 questions on their questionnaires and the remaining groups had about 15 questions on theirs.

The questionnaire was made up of multiple choice questions that usually included four or five choices. Some questions encouraged the respondents to mark as many answers as they considered applicable. In addition, in the cover memo all respondents were encouraged to write in their own comments as well. By using this approach, the questionnaire results became fairly easy to process and summarize, and yet details could be provided by a review of the comments themselves. For several questions, new response categories were included in the analysis stage based on a review of the respondents' insightful comments.

#### 4.3 Identification of Target Groups

Ten different target groups were included in the survey. Because the groups differed in size and geographical locations, specific sampling methods were devised to identify members of each target group for the survey.

Judges. Questionnaires were sent out to all 111 district court judges in the state.

District Attorneys. All 35 district attorneys in the state were included in the survey. Because of personnel changes in a number of districts, an attempt was made to insure that everyone included in the survey had had enough experience as a district attorney to be able to respond to the questionnaire. Thus, if a person had prior prosecution experience, he was sent a questionnaire even if he had not been a district attorney for long. On the other hand, if the new district attorney had no prior prosecution experience, then the questionnaire was sent to the retiring district attorney instead.

Defense Attorneys. A directory was obtained of members of the North Carolina Academy of Trial Lawyers listed by their specialty areas. Those listing criminal law as their specialty area constituted the survey pool to be

sampled from. A total of 96 defense attorneys representing different areas of the state was sampled from the pool of criminal lawyers. This sample was drawn by selecting one (more in larger cities) criminal lawyer from each of the 80 major cities in the state. A major city was defined as a densely populated area within its county.

Superior Court Clerks. All 100 superior court clerks in the state were mailed the questionnaire.

Court Liaison Personnel. Each court liaison person (or commonly known as court counselor) was sent a questionnaire. However, not every county has a court counselor, and in some instances, a court counselor serves more than one county. Thus, a total of 74 questionnaires was mailed out to this group.

Enforcement Personnel. Because of the large number of enforcement officers (Highway Patrol troopers) in the state, it was decided to survey only a sample of this group. The scheme used was to randomly select two troopers from each of the 50 districts. However, after selecting the 100 troopers, five were found to have retired, so questionnaires were sent out to the remaining 95 troopers in the sample. The questionnaires were distributed to the troopers through their district headquarters.

Mental Health Administrators. Since there are only 41 administrators (or area directors) in the state, they were all included in the survey.

Instructors. A directory of certified instructors in the state lists 222 names. A sample of 81 instructors was drawn from this directory. This sample represents a selection of one instructor from each ADET school. However, this number is less than the number of schools (88) because some instructors were teaching in more than one school. In addition, in some places, the same person served as the instructor as well as the court counselor. In those instances, the person was asked to complete both questionnaires but was asked to indicate their dual responsibilities on the returned questionnaires.

Students. A systematic sample of 212 students was drawn from a list (sorted by driver license number) of students who completed ADETS during the first three months of 1981 (about 5300). Although no attempt was made to sample students by different geographical areas, the sample selected includes students from 114 different cities in the state.

Citizens Concerned About Drunk Driving. A list of concerned citizens was provided by the Governor's Highway Safety Office. It contains names of people who are involved in citizens' groups and whose main concern is drunk driving. After removing the names with incomplete addresses, questionnaires were sent out to all 37 persons on this list.

#### 4.4 Survey Procedures

The survey method used was by mail questionnaire. Each target group was sent a cover memo (Appendix 4-C), a questionnaire, and a stamped, self-addressed envelope. The materials were sent out by either first class mail or by state courier service (the latter for groups whose offices are on the state courier route, e.g., clerks of court, area directors). Commemorative stamps were used in connection with first class mailing and on all return envelopes. These procedures were used to maximize the return rate. Because all questionnaires were being completed anonymously, and because of time and budget constraints, no follow-up contacts were made after the first mailing.

#### 4.5 Methods of Analysis

Questionnaire responses were tallied for each target group. In comparing responses from different target groups, percentage of comments in a category was used. Since respondents were encouraged to provide as many comments as they wished on many items, these category percentages were calculated based on the total number of comments rather than on the number of respondents. However, for

those questions where they were not told to mark as many as apply, the total number of comments is the same as the total number of respondents after excluding those who made no comment. Thus, respondents who made no comment to a particular question were excluded from that percentage computation.

Because the number of people surveyed in most groups was small, statistical tests were not used to determine group differences. Rather, results from different groups are discussed to highlight areas of different or similar perceptions.

No attempts were made to combine responses from different target groups because some questions may not be answered by all groups and furthermore, the differential response rates (to be discussed in the next section) of the different target groups rendered such an approach meaningless.

#### 4.6 Results

##### 4.6.1 Questionnaire Return Rates.

Questionnaires were sent out during the months of December, January and February. Returns were processed during the last week of March, allowing ample time (at least six weeks) for respondents to return their questionnaires.

The return rates varied among the ten target groups (Table 4.1). Higher response rates (more than 80 percent) were found for court liaison personnel, highway patrol troopers, mental health administrators and superior court clerks. The lowest return rate (26 percent) was observed for the student group. Also, a number of the students' questionnaires was returned by the post office as "Undeliverable-Forwarding Address Unknown". From these findings, it could be concluded that ADETS students are a rather difficult group to reach in part because of their mobility and perhaps because of their unwillingness to respond.

Table 4.1 Comparison of response rates by different target groups.

<u>Target Group</u>	<u>Questionnaires Sent</u>	<u>Undeliverable Questionnaires</u>	<u>Questionnaires Received</u>	<u>Response Rate*</u>
District Court Judges	111	0	68	61%
District Attorneys	35	0	17	49%
Defense Attorneys	96	1	57	60%
Superior Court Clerks	100	0	82	82%
Court Liaison Personnel	74	0	64	86%
Enforcement Personnel	95	0	82	86%
Mental Health Administrators	41	0	34	83%
Instructors	81	1	58**	73%
Students	212	8	45	26%
Concerned Citizens	37	0	24	65%

\*Undeliverable questionnaires were excluded from the response rate computations.  
 \*\*25% of these instructors also responded to the court liaison questionnaire because of their dual roles.

With the exception of ADETS students and possibly the district attorneys, the obtained response rates could be considered excellent for a one time mail questionnaire with no follow-up effort.

Because of the low response rate of the student group, their comments need to be interpreted more cautiously. Certain biases have generally been found to be associated with respondents to questionnaires. Persons with higher levels of education, higher socioeconomic status or those in favor of the program are more likely to respond to the questionnaire. Thus, results from the students' survey need to be interpreted with such biases in mind.

#### 4.6.2 Questionnaire Results.

Responses to questions were tallied and category percentages based on total number of comments made to each question were calculated separately for each target group. For some questions, the total number of comments is identical to the total number of respondents. These results are discussed below in detail.

#### 1. Are you aware of the ADETS (Alcohol and Drug Education Traffic Schools) program?

	Judges	Dist. Attor.	Def. Attor.	Clerks of Court	Court Liaison	Highway Patrol	Admin.	Students	Concerned Citizens
Know a great deal	88.2	52.9	64.9	55.6	98.4	9.8	100.0	13.3	45.8
Have heard of it	10.3	35.3	31.6	39.5	1.6	75.6	0	46.7	37.5
Don't know if heard of it	0*	0	1.7	0	0	0	0	2.2	0
Know nothing about it	1.5	5.9	1.7	3.7	0	14.6	0	37.8	16.7
Other	--*	5.9	--	1.2	--	--	--	--	--

\* 0 indicates no response to a particular category while

-- indicates the absence of that category in the question for some target groups.

All groups except the instructors had this question on their questionnaire. For all but one group, at least 80 percent of responses indicated that they either knew or had heard about the ADETS program. Responses from students (37.8 percent) were more likely to indicate that they did not know anything about this program beforehand.

2. Is the ADETS program a valuable resource to you?

	Judges	Dist. Attor.	Def. Attor.	Court Liaison	Hwy. Patrol	Admin.	Concerned Citizens
Often helpful	71.2	20.0	27.3	93.5	5.7	97.0	26.7
Sometimes helpful	19.7	60.0	36.4	4.8	40.0	3.0	20.0
Seldom helpful	6.1	6.7	25.5	0	25.7	0	13.3
Never helpful	3.0	13.3	10.9	1.6	28.6	0	40.0

More than 90 percent of court liaison personnel and mental health administrators considered the ADETS program as being often helpful to them. On the other hand, a sizable proportion of concerned citizens and highway patrol troopers have never found ADETS to be helpful. Clerks of court, instructors and students were not asked to respond to this question.

3. In your opinion is the ADETS program being administered fairly?

	Judges	Dist. Attor.	Def. Attor.	Clerks of Court	Court Liaison	Hwy. Patrol	Admin.	Instruct.	Students	Concerned Citizens
Very fair	37.3	13.3	19.6	27.8	61.3	7.2	76.5	53.4	37.8	21.0
Fair	34.3	53.3	57.1	44.3	30.6	31.9	20.5	32.8	35.6	21.0
Don't know	25.4	26.7	19.6	24.1	3.2	52.2	3.0	6.9	11.1	52.6
Sometimes	1.5	6.7	1.8	2.5	1.6	7.2	0	5.2	8.9	0
Often Unfair	1.5	0	1.8	1.3	3.2	1.4	0	1.7	6.7	5.3

A high proportion in most groups viewed ADETS as being handled very fairly or fairly. ADETS was considered as being handled more unfairly by students than by any other group. Highway patrol troopers and concerned citizens were least knowledgeable about the fairness of the program.

4. In your opinion how do defense attorneys feel about ADETS?

	Judges	Dist. Attor.	Clerks of Court	Court Liaison	Hwy. Patrol	Concerned Citizens
Like a great deal	4.4	0	10.7	19.7	12.9	10.5
Like it	32.3	20.0	26.7	53.0	17.1	15.8
Don't seem to like it much	33.8	40.0	18.7	18.2	18.6	31.6
Don't like it at all	8.8	6.7	5.3	3.0	2.9	5.3
No idea	16.2	26.7	32.0	6.1	48.6	36.8
Other	4.4	6.7	6.7	--	--	--

Among the six groups that responded to this question, a higher proportion of court liaison personnel saw defense attorneys as liking the program. Only a small proportion (less than 10 percent) in all six groups thought that defense attorneys do not like the ADETS program at all. About half of the respondents in the highway patrol group had no idea of how defense attorneys feel about the ADETS program.

Respondents in three groups made other types of comments to this question, mainly indicating that defense attorneys may not have any feeling concerning the ADETS program.

5. In your opinion, how do district attorneys feel about ADETS?

	Judges	Def. Attor.	Clerks of Court	Court Liaison	Hwy. Patrol	Concerned Citizens
Like a great deal	13.4	13.0	16.9	39.0	8.6	10.5
Like it	46.3	35.2	32.5	50.8	34.3	10.5
Don't seem to like it much	6.0	20.4	7.8	3.4	8.6	26.3
Don't like it at all	4.5	0.0	2.6	0.0	2.9	5.3
No idea	20.9	31.5	40.3	6.8	45.7	47.4
Other	8.9	--	--	--	--	--

District attorneys are seen by many in most groups (except for concerned citizens) as liking the ADETS program. About half of respondents in the highway patrol and concerned citizens groups reported that they had no opinion of how district attorneys feel about the ADETS program. Nine percent of responding judges felt that district attorneys may not have any strong feeling toward ADETS, as evidenced by the comments made in the "other" category.

By comparing results on questions #4 and #5, it appears that all groups (except for concerned citizens) saw district attorneys as being more favorable toward the ADETS program than were defense attorneys.

6. In your opinion how do defendants feel about ADETS?

In contrast, defendants are being viewed by close to a majority in all groups (except for court liaison personnel) as not liking the program much or not liking it at all. More than half of the respondents in the court liaison group are of the opinion that defendants like ADETS. Furthermore, 19 percent of

	Judges	Dist. Attor.	Def. Attor.	Clerks of Court	Court Liaison	Hwy. Patrol	Concerned Citizens
Like a great deal	4.6	0.0	3.3	3.9	7.8	1.4	15.8
Like it	13.8	13.3	28.3	14.3	57.8	10.1	15.8
Don't seem to like it much	47.7	40.0	46.7	39.0	12.5	42.0	36.8
Don't like it at all	9.2	13.3	5.0	9.1	3.1	10.1	5.3
No idea	23.1	33.3	8.3	28.6	0.0	36.2	26.3
Other	1.5	--	8.3	5.2	18.7	--	--

respondents in this group also made the comment that they thought defendants like ADETS after the course. About eight percent of responding defense attorneys were of the opinion that defendants might be indifferent about ADETS.

7. Do the people you come into contact with (in your work) know about the ADETS program?

	Administrators	Instructors	Students	Concerned Citizens
Most know	88.2	82.8	41.9	38.9
Some know	11.8	13.8	30.2	27.8
Very few know	0.0	3.4	18.6	33.3
Nobody knows	0.0	0.0	9.3	0.0

More than 80 percent of respondents in the administrators and instructors groups indicated that most people they came into contact with at work knew about ADETS. On the other hand, close to 10 percent of students responded that nobody they came into contact with knew about the program. This latter finding, combined with results from question #1, suggests that students, as a group, were not very aware or knowledgeable about the ADETS program.

8a. To what extent do you think the ADETS program has been used as a measure to reduce sentences?

	Judges	Dist. Attor.	Def. Attor.	Clerks of Court	Court Liaison	Hwy. Patrol	Instructors	Concerned Citizens
Primarily used	3.3	12.5	9.4	13.3	9.8	27.3	11.9	50.0
Sometimes used	11.5	37.5	17.0	28.0	34.4	47.0	45.8	31.2
Not being used	85.2	37.5	62.3	58.7	54.1	24.2	42.4	12.5
Other	--	12.5	11.3	--	1.6	1.5	--	6.2

More than half of responding judges, defense attorneys, clerks of court and court liaison groups believed that ADETS was not used as a measure to reduce sentences. However, about 10 percent of responding district attorneys and defense attorneys commented that the categories provided on this question were ambiguous, and therefore they added another category to the question, that of "Using ADETS to reduce an active sentence". Concerned citizens and highway patrol troopers tended to more often view ADETS as being used primarily to avoid a sentence than the other groups. For the remaining two groups (district attorneys and instructors), their respondents are mainly divided into those who thought that ADETS is sometimes used to reduce sentences and those who thought that ADETS is not being used to reduce sentences.

8b. To what extent do you think the ADETS program has been used as an educational tool?

	Judges	Dist. Attor.	Def. Attor.	Clerks of Court	Court Liaison	Hwy. Patrol	Admin.	Instruct.	Concerned Citizens
Primarily used	64.6	40.0	44.6	41.7	75.4	32.4	100.0	82.1	31.6
Sometimes used	29.2	60.0	46.4	40.3	24.6	51.5	0.0	16.1	47.4
Not being used	6.2	0.0	8.9	18.1	0.0	16.2	0.0	1.8	21.0

A large proportion of respondents in all groups (even highway patrol and concerned citizen groups, a good proportion of whom previously thought that ADETS is being used to reduce sentences) shared the opinion that ADETS is being used as an educational tool as well. As expected, administrators and instructors are more likely to emphasize the educational role of ADETS because of the nature of their responsibilities.

9. What proportion of your clients (defendants, people you arrested) know about the ADETS program?

	Judges	District Attorneys	Defense Attorneys	Highway Patrol
Most know	42.2	13.3	46.4	22.1
Some know	35.9	53.3	35.7	30.9
Few know	21.9	33.3	14.3	39.7
None know	0.0	0.0	3.6	7.4

Responses to this question by the four groups imply that at least some defendants knew about ADETS beforehand. Only a very small proportion of respondents in these groups thought that none of them knew about ADETS beforehand. As recalled from responses to Questions #1 and 7, the reverse was indicated by the students themselves. Therefore, while it appears that other groups believe that at least some defendants know about ADETS beforehand, according to defendants' own reports, a good proportion did not. It should also be noted that the questionnaire finding might represent only a very conservative estimate of those who did not know about ADETS beforehand because there is reason to believe that nonrespondents could be even less aware of the program than were respondents.

10. Has attending the ADETS school changed your driving and/or drinking behavior?

Only students were asked this question. Based upon their responses, it appears that attending ADETS has changed respondent students' drinking and driving behavior. About 60 percent reported that they do not drive after drinking anymore and 27 percent indicated that they are driving more carefully now after drinking. The remaining nine percent reported that they have not changed their drinking and driving behavior after the course. Although these results are encouraging, definitive conclusions regarding the ability of ADETS to influence subsequent behavior could not be drawn from this set of data due to the large number of students not responding to the questionnaire and the fact that it must rely on self report.

11. Did you complete the ADETS course?

All students responding to this question indicated that they attended all sessions of the course. Therefore, the requirement that students must attend or make up all class sessions in order to complete the course appears to be the case in actual practice also.

12a. Which materials in the course did you find most helpful (like best)?

	Instructors	Students
Alcohol - the drug	20.2	9.4
Alcohol and drug effects on driving skill	30.8	34.0
Drugs and you	7.7	1.9
The alcoholic drinking driver	19.2	11.3
Personal action - Avoiding a second DUI arrest	19.2	32.1
Other	2.9	11.3

Both instructors and students were asked to judge the different parts of the curriculum as being most helpful (question 12a) or least helpful (question 12b). Based on the responses received to question 12a, the section on "Alcohol and Drug Effects on Driving Skills" was more frequently considered most helpful by both groups. The section on "Personal Action-Avoiding a Second DUI Arrest" also received a high proportion of responses from the students, but not as much from the instructors. Comments from instructors indicate that they also preferred the sections on "Alcohol-The Drug" and "The Alcoholic Drinking Driver". The Section on "Drugs and You" received the lowest proportion of responses in this question from both groups. Additional comments (11 percent) offered by students suggest that more class time should be devoted to discussion.

12b. Which materials in the course do you find least helpful?

	Instructors	Students
Alcohol - the drug	4.8	13.5
Alcohol and drug effects on driving skill	4.8	13.5
Drugs and you	32.3	29.7
The alcoholic drinking driver	12.9	10.8
Personal action - Avoid- ing a second DUI arrest	21.0	18.9
Other	24.2	13.5

In conjunction with the finding to the previous question, about 30 percent of responses from both groups indicated that the section on "Drugs and You" was least helpful. This section could be considered as a prime candidate for revision. The section on "Personal Action-Avoiding a Second DUI Arrest" also

received a sizable proportion of responses from both groups, implying that this section was also considered least helpful by some students (32 percent of student respondents to question 12a considered this section as most helpful) and instructors.

Many other comments were offered by instructors as well as by students. Most of them are suggestions to improve the course such as including information on breathalyzer, seat belts, and alcohol's effects on liver. The use of films and discussion during class were also mentioned.

13. What suggestions do you have for improving the course?

	Court Liaison	Instructors	Students
None	19.6	--	--
More time	12.4	10.7	16.2
More visual aids	18.6	19.4	23.0
More discussion	19.6	20.4	23.0
Provide more case studies	9.3	19.4	21.6
Better classroom facilities	15.5	15.5	9.5
Other	5.2	14.6	6.7

This question was included to request participants to respond to specific suggestions for improving the course. All three groups indicated a great need for having more discussion during class and also having more visual aids such as graphs, slides, charts or films. Providing more case studies was also considered an important suggestion as judged by the instructors' and students' responses. The suggestion of allowing more time to cover course materials received a higher proportion of responses from students than from court liaison

personnel and instructors. On the other hand, better classroom facilities were considered more important by the ADETS program staff than by students. The differences obtained here reflect the different perspectives or needs of the target groups.

A number of additional suggestions were offered, especially by the instructors. They suggested using special materials for illiterates, having a separate class for second DUI offenders, showing more current films, and putting more emphasis on alcoholism and decision making skills.

14. Do you follow up on those who did not finish the course?

	Clerks of Court	Court Liaison	Administrators	Instructors
Report them to proper authorities	56.4	96.8	96.8	96.6
Wait for a query	17.9	0.0	0.0	1.7
Don't do anything	16.7	3.2	3.2	0.0
Other	9.0	--	--	1.7

Those who did not finish the course were usually reported to the proper authorities by court liaison personnel, administrators and instructors. Responses from clerks of court show that they are more likely to wait for others to query about the non-compliance cases or not do anything about following them up. A minority of comments offered by clerks of court indicates that some clerks of court also issued orders to show cause to those who did not finish the course.

15. What happens to those students who completed the course but did not pay?

	Clerks of Court	Court Liaison	Administrators	Instructors
No such problem	6.6	--	--	--
Try to collect	17.9	16.2	13.5	14.6
Report them to proper authorities	30.2	36.9	36.5	39.8
Considered as non-compliance cases	28.3	42.3	46.1	40.8
Can't do much about them	2.8	1.8	0.0	1.9
Local mental health center collects	14.2	--	--	--
Other	--	2.7	3.8	1.9

Quite frequently, those who did not pay were reported to proper authorities and/or considered as non-compliance cases. Some attempts were also made to try to collect the fees. The local mental health center at times acted as a collection agent for the ADETS program. In addition, a small proportion of respondents in the court liaison personnel, administrators and instructors groups all commented on a policy that students are not allowed in class until they have paid. Only a very small portion of all four groups indicated that "they can't do much about those who did not pay".

16. To whom do you report the non-compliance cases?

	Administrators	Instructors
Judges	18.5	9.8
District attorneys	11.1	11.6
Clerks of court	44.4	40.2
Division of Motor Vehicles	22.2	28.6
Regional office	--	7.1
Don't report them	3.7	2.7

Non-compliance cases were most often reported to clerks of court and then to the Division of Motor Vehicles. Sometimes district attorneys and judges were also notified. At times, the instructors reported them to the regional mental health center. About three percent of responses from administrators and instructors indicate that they did not report these cases to anyone.

17. What kind of problems have you encountered in transferring students?

	Clerks of Court	Court Liaison	Administrators	Instructors
No transfer	2.5	--	--	1.7
No problem	21.0	72.1	75.7	68.3
Trouble collecting fees	2.5	5.9	9.1	3.3
Reluctant to accept transfers	0.0	0.0	0.0	3.3
A great deal of paperwork	0.0	5.9	9.1	5.0
Handled by local mental health center	72.8	--	--	--
Other	1.2	16.2	6.1	18.3

According to clerks of court, transfers are generally handled by the local mental health center. Most of the respondents in the court liaison, administrators and instructors groups reported not having any problem with transfer students. Some of the comments from the group primarily responsible for handling transfers, that is, administrators, indicate that transfers necessitated a great deal of paperwork or at times there is trouble collecting fees on the transfers. Other comments made to this question from all four groups pertain to the scheduling problems of transfers and to the communication problems with the other schools or agencies concerning transfer students.

18. Do you know of other programs besides the ADETS program that could be used to help drivers convicted of DUI? If so, please write in the name of the program.

	Judges	Dist. Attor.	Def. Attor.	Court Liaison	Hwy. Patrol	Admin.	Instruct.	Students	Concerned Citizens
DMV programs	4.0	0.0	3.8	7.5	10.4	10.0	10.3	7.1	5.9
Mental health programs	37.8	26.7	48.1	32.8	18.2	55.0	34.5	4.8	35.3
Community prog.	10.8	0.0	1.9	6.0	1.3	5.0	1.7	0.0	5.9
Other programs	24.3	20.0	15.4	6.0	11.7	10.0	15.5	14.3	5.9
Multiple offen. programs	--	--	--	14.9	--	--	--	--	--
Don't know	23.0	53.3	30.8	32.8	58.4	20.0	37.9	73.8	47.1

Students and highway patrol troopers appear to be least knowledgeable about other programs besides ADETS that could be used to help DUI drivers. Furthermore, even among those who reported that they knew of a particular type of program (DMV, mental health or community), very few wrote in the specific name of the program as requested by the question. Alcoholics Anonymous, ASAP and programs by the military were the only ones frequently mentioned under the category of "Other programs".

19. Are the fees collected adequate to cover the program costs?

Administrators	
Fees need to be subsidized	2.8
Fees are adequate	80.6
Fees generate an excess	16.7

The fees collected were considered as adequate to cover program costs by the majority of the responding administrators. About 17 percent of them

indicated that the collected fees provided an excess after paying program expenses. Only a small proportion of respondents felt that the fees collected were inadequate and that the ADETS program needs to be subsidized by other funds.

20. What type of support do you (your area) receive from the State's Office of Mental Health, Mental Retardation and Substance Abuse Section (MH/MR/SAS)?

	Administrators	Instructors
Training	30.0	40.8
Printed materials	23.7	27.5
Audiovisual materials	14.4	11.7
Problem resolution	18.6	15.0
Funding	11.3	2.5
Other	2.1	2.5

Training and printed materials were considered the more frequent types of support received by administrators and instructors responding to this questionnaire. In some instances, the two groups also viewed the state's office as providing help in resolving problems.

21. Do you think the state's requirements for certifying instructors are adequate?

	Administrators	Instructors	Concerned Citizens
Requirements too low	8.3	26.3	12.5
Requirements are adeq.	72.2	70.2	50.0
Requirements too high	19.4	3.5	0.0
Don't know	0.0	0.0	37.5

The majority of administrators and instructors responding to this questionnaire considered the state's requirements for certifying instructors as being adequate. However, it is interesting to note that the instructors themselves more frequently considered the requirements as being too low than did the administrators. As for the group of concerned citizens, a sizable portion of them indicated that they did not know enough about the state's requirements to respond to this question. Among those concerned citizens who knew about the state's requirements, most of them also considered the requirements as being adequate. However, nobody in the concerned citizen group would consider the state's requirements for certifying instructors as being too high.

22. Do you see a need for a separate program for multiple offenders?

	Judges	Dist. Attor.	Def. Attor.	Clerks of Court	Court Liaison	Hwy. Patrol	Admin.	Instruct.	Students	Concerned Citizens
Do not allow MO into ADETS	11.6	6.7	7.3	37.7	10.0	36.8	7.9	9.4	6.7	30.0
Same program for both	7.2	20.0	3.6	19.5	7.1	4.4	10.5	4.7	22.2	0.0
Special M.O. program	80.0	73.3	89.1	40.3	82.9	54.4	81.6	85.9	71.1	70.0
Other	1.4	--	--	2.6	--	4.4	--	--	--	--

Except for clerks of court, a majority of all groups surveyed saw a need for a separate program for multiple offenders. Conversely, only a small portion of the respondents in most groups felt that the same program could serve the first offenders as well as the multiple offenders. Three highway patrol troopers (4.4%) mentioned jail as a countermeasure for the multiple offenders.

23. What proportion of the eligible cases that come before you are being referred to ADETS?

	Judges	District Attorneys	Defense Attorneys	Court Liaison
Less than 10 percent	1.5	0.0	8.9	1.6
About 10 to 25 percent	3.0	7.7	3.6	10.9
About 50 to 75 percent	19.7	7.7	12.5	26.6
More than 75 percent	75.8	84.6	75.0	60.9

The above table shows that a majority of the eligible cases that came before judges, district attorneys, defense attorneys and court liaison personnel were being referred to ADETS. District attorneys appear to be more likely to refer eligible cases to ADETS than are the other three groups of respondents.

24. How many drivers have you referred to the ADETS program during the past month?

	Judges	Defense Attorneys
Less than 5	3.1	51.9
About 5 to 10	1.6	18.5
About 11 to 15	9.4	5.6
About 16 to 20	14.1	9.3
More than 20	71.9	5.6
Referred by court	--	9.3

The above table clearly shows that judges referred more students to the ADETS program than defense attorneys. About 70 percent of the responding judges reported having referred more than 20 drivers to the ADETS program during the past month prior to the survey. Nine percent of the responding defense attorneys indicated that the court did most of the referrals.

25. What are the factors you considered for referring drivers to the ADETS program?

	Judges
Alcohol related convictions	35.3
Previous driving history	20.3
Desire for a limited driving license	30.1
Attendance at other driver improvement programs	7.2
Other	7.2

The group that does most of the referrals, that is, judges, was asked the factors that they used in referring drivers to the ADETS program. Alcohol related convictions and desire for limited driving privileges were the two most frequently mentioned factors in considering drivers for ADETS referral. Previous driving history was sometimes considered as a factor for referral. Comments by some judges indicated that a person's age and education, as well as law requirements, are also factors to be considered for ADETS referrals.

26. Do you refer multiple offenders to the ADETS program?

	Judges	Defense Attorneys
Frequently refer	24.2	18.0
May refer under special circumstances	47.0	30.0
Do not refer	25.8	40.0
Other	3.0	12.0

When asked about referring multiple offenders to the ADETS program, judges were more likely than defense attorneys to refer multiple offenders to ADETS. Thus, although judges like other groups saw a need for a separate program for multiple offenders (Question #22), they were not as reluctant to refer multiple offenders to ADETS. However, it could be the lack of other options for the

multiple offenders that made it necessary for judges to recommend ADETS for the multiple offenders as well.

27. How do you feel about the fee charged for attending the school?

	Def. Attor.	Administ.	Students
Fee is too high	50.9	0.0	53.5
Fee is a fair amount to charge	49.1	91.4	44.2
Fee is not enough	0.0	8.6	2.3

This question is very similar to the one asked of administrators on Question #19. For that group, the results are rather similar. A majority of the administrators thought the fee is a fair amount to charge and nobody in this group felt the fee is too high. On the contrary, about half of the respondents in the defense attorneys and student groups believed that the fee is too high. This difference may reflect the different perspectives of the target groups. Since the fees were paid by students, students and defense attorneys (working on behalf of students) might view the fee as a financial hardship. On the other hand, administrators would see the fee as necessary for paying the program expenses.

28. What do you suggest for improving the processing of DUI cases through the court system and the ADETS program?

	Judges	Dist. Attor.	Def. Attor.	Clerks of Court	Court Liaison	Hwy. Patrol	Admin.	Instruct.	Concerned Citizens
No need to change	--	--	--	9.3	--	1.0	--	1.0	--
Better coord. with court	22.7	33.3	24.6	22.1	16.5	22.2	20.0	18.8	18.4
Less time lag between school & court	19.6	20.0	19.7	18.6	14.3	20.5	8.0	14.6	23.7
Clearer resp. for fee collect.	15.5	0.0	11.5	8.1	16.5	8.5	14.0	11.5	5.3
More vigorous follow-up	34.0	40.0	22.9	24.4	34.1	43.6	38.0	40.6	44.7
Other	8.2	6.7	21.3	17.4	18.7	4.3	20.0	13.5	7.9

Most groups felt a great need for a more vigorous follow-up of non-compliance cases. The other two suggestions, "Better coordination between the program and court" and "Less time lag between school attendance and conviction date," also received a high percentage of responses from all groups. Of all the suggestions provided, the one on "Clearer delineation of responsibility for fee collection" was viewed as least important by seven out of the nine groups surveyed.

There were many other suggestions offered by respondents to improve the processing of DUI cases through the court system and the ADETS program. A listing of the frequently mentioned suggestions is presented below:

- Eliminate plea bargaining
- Mandatory court room counselors present at all times
- Tougher penalties, include jail sentence
- More information about program, especially for legal and judicial personnel, and the public
- More consistent judgment by judges
- More flexibility in scheduling students for schools
- Fees should be collected by courts
- Separate classes for multiple offenders

29. What is your opinion of the ADETS instructors?

	Court Liaison	Administ.	Students
They are highly qualified	65.2	61.8	25.5
They are adequately qualified	24.2	38.2	59.6
They are not qualified	0.0	0.0	8.5
Other	10.6	0.0	6.4

A majority of the responding court liaison personnel and administrators considered instructors as highly qualified for teaching the ADETS course. In contrast, the majority of responding students felt that instructors are just adequately qualified for teaching ADETS. About eight percent of the students considered the instructors as not qualified for teaching ADETS. It is also important to note that some comments offered by the court liaison respondents mentioned that the minimum educational requirement for certifying instructors is too low. This fact was also indicated by the instructors' themselves in their responses to Question #21.

30. Do you find the court liaison person helpful?

	Judges	Dist. Attor.	Def. Attor.	Clerks of Court	Instruct.
Also serve as a court liaison					18.5
Very helpful	79.4	53.3	62.7	74.4	68.5
Don't help me much	11.8	20.0	15.2	9.0	0.0
More time consuming	0.0	0.0	5.1	2.6	0.0
No dealings with them	1.5	13.3	5.1	3.8	9.2
Not available	7.3	6.7	11.9	10.3	3.7
Other	--	6.7	--	--	

According to respondents, court liaison persons were not always available to them. In cases where they were available, most of the respondents found them to be very helpful. This finding is consistent with the suggestion made to Question #28 where respondents on their own suggested that court room counselors be present at all times.

31. What proportion of time do you devote to administering the ADETS program?

	Administrators		Instructors
Less than 5% of the time	58.8	Less than a quarter time	44.8
5 to 10%	26.5	About half time	24.1
10 to 25%	8.8	About three quarter time	20.7
More than 25%	5.9	Full time	10.3

The categories of this question are not directly comparable across the two groups because instructors spent more time on administering ADETS than the mental health administrators who have responsibility for administering other types of mental health programs as well. The majority of the responding administrators spent less than five percent of their time administering the program while at least 50 percent of the responding instructors spent more than a quarter of their time administering ADETS. The ten percent of instructors who reported devoting full time to ADETS probably included teaching time in their estimate.

32. What kind of problems have you encountered in collecting the ADETS fees?

	Clerks of Court	Administ.	Instruct.
Difficult to collect fee on transfer	6.1	5.9	6.3
Takes too much time	13.4	5.9	6.3
Refused to pay	11.0	17.6	22.2
Not a lot of problem	34.1	61.8	41.3
Other	35.4	8.8	23.8

Based on the responses, fee collection does not appear to be a problem for clerks of court, administrators and instructors. However, there is still a portion of students who refused to pay. Some of the comments from clerks of court indicated that such instances occurred as a result of students' inability to pay or unsuccessful efforts to locate students. This situation was avoided in some counties by having the court collect the fee in advance from students.

33. How do you assist the court personnel in referring drivers to the ADETS program?

	Court Liaison Personnel
Provide referral guidelines	19.6
Perform paperwork	23.4
Give information about school	25.5
Do referral	26.1
Other	5.4

Court liaison personnel assisted the court personnel (judges, district attorneys, defense attorneys and clerks of court) in several different ways to refer drivers to ADETS. Their assistance ranged from giving information about school schedules, providing guidelines for referral, and performing paperwork to actually doing the referral themselves. As pointed out earlier by the court personnel, their assistance has generally been considered very valuable and some even would like to recommend that all counties should arrange to have a court liaison person available to help them with ADETS referrals at all times.

34. Have you made any attempt to limit the ADETS program to first DUI offenders only?

	Judges	Dist. Attor.	Def. Attor.	Court Liaison	Administ.
Referred anybody who might benefit	58.8	58.3	40.8	42.9	36.4
Referred both multiple & first DUI offenders	20.6	33.3	28.6	15.7	24.2
Referred first DUI offenders	20.6	8.3	12.2	28.6	39.4
Referred by judges	0.0	--	18.4	12.9	--

Although all groups saw a great need for a separate program for multiple offenders (Question #22), in most instances, they reported referring anybody who might benefit, including multiple offenders as well. Only a minority of respondents reported limiting the ADETS program to first DUI offenders. Again, this finding may be related to the scarcity of programs in existence for the multiple offenders.

35. What proportion of time do you devote to court liaison activity?

	Court Liaison Personnel
Less than a quarter time	37.3
About half time	28.4
About three quarter time	19.4
Full time	14.9

Based on responses received, court liaison personnel frequently do not devote a lot of time to court liaison activities even though the other target groups would like to obtain more of their assistance (Questions #28 and 30). In certain counties, court liaison personnel also serve as instructors and

therefore would not be able to devote full time to their court liaison activities. Such an arrangement may need reassessment in view of the great demand for court liaison time.

36. What proportion of time do you spend on other alcohol related program activities?

	Court Liaison	Administ.	Instruct.
Less than a quarter time	39.7	61.8	51.7
About half time	38.1	11.8	24.1
About three quarter time	17.5	17.6	12.1
Full time	4.8	8.8	12.1

Only about 25 percent of respondents reported spending more than half time on other alcohol related program activities. Instructors and administrators were more likely to report working full time on alcohol related program activities than court liaison personnel.

37. What kind of students do you think would benefit most from ADETS?

	Instructors
Anybody with an alcohol problem	16.7
Those who had not attended ADETS before	40.5
First DUI offenders only	33.3
Other	9.5

Persons who had not attended ADETS before and first DUI offenders were thought to be the kinds of students that would benefit most from ADETS. Instructors also commented that ADETS would be beneficial for the offenders'

family and for driver education students. Thus, it appears that ADETS is primarily geared to early stage DUI offenders, and not to the chronic or problem drinkers.

38. How effective do you feel the ADETS program is in deterring drunk driving in North Carolina?

	Judges	Dist. Attor.	Def. Attor.	Clerks of Court	Court Liaison	Hwy. Patrol	Admin.	Instruct.	Students	Concerned Citizens
Discourage some from driving after drinking	27.9	0.0	20.3	10.3	63.4	10.1	88.2	62.7	33.3	5.0
Change behavior for a short while	30.9	43.7	28.8	35.9	25.4	69.6	8.8	20.9	39.6	60.0
Difficult to expect people to change	25.0	50.0	27.1	30.8	4.2	17.4	2.9	4.5	20.8	10.0
No opinion	16.2	6.3	23.7	17.9	2.8	1.4	0.0	1.5	6.2	10.0
Other	--	--	--	5.1	4.2	1.4	--	10.4	--	15.0

Court liaison, administrators and instructors responded more positively toward the ADETS program. A majority of them felt that ADETS could discourage at least some people from driving after drinking. Highway patrol and concerned citizens are more likely to hold the opinion that ADETS could change behavior for only a short while. The opinions of the district attorneys and clerks of court were divided between the two categories, some thought that it is difficult to expect ADETS to change people's behavior while others thought that it is possible for ADETS to change behavior only for a short while. The opinions of judges and defense attorneys were rather evenly distributed across all four response categories.

Students generally considered ADETS as being effective in discouraging drinking and driving. About 21 percent of student respondents considered it to be difficult to expect people to change their behavior after attending ADETS. This set of results is quite similar (although not as positive) to those obtained for Question #10.

In summary, groups varied somewhat in how effective they saw ADETS in changing behavior. However, a substantial portion of respondents in all groups felt that ADETS is at least effective in changing some people's behavior or in changing behavior for a short while.

39. How do you feel about law enforcement personnel teaching a part of the ADETS course?

	Highway Patrol Troopers
Strongly favor	11.6
Favor	43.5
No opinion	14.5
Do not favor	20.3
Strongly against	10.1

More than half of law enforcement personnel responded favorably to the idea of having them teach a part of the ADETS course. Only about 10 percent of them responded as being strongly against the idea. Therefore, ADETS instructional staff could consider asking enforcement personnel to come in as guest speakers for the class. Good topics for enforcement personnel to speak on would be the DUI law and blood alcohol levels.

40. How helpful have you found the ADETS personnel in supplying you with information about the drunk driving problem?

	Concerned Citizens
Not very helpful	5.3
Do not ask their help	26.3
Very helpful	68.4

In contrast to the findings on Question #2, a majority of the concerned citizens who responded to this question have often found the ADETS personnel very helpful in supplying information to them concerning the drunk driving problem. About 25 percent of respondents have not gone to them for help yet. It could be that not every concerned citizen knows about such a program and the resources it could provide.

Summary

ADETS appears to be a program known to most of the groups queried. However, students were not as knowledgeable about ADETS as were other groups. The perception of the ADETS program was quite similar across groups. Most (except for students) considered ADETS as being administered fairly. In their opinion, respondents saw district attorneys and defense attorneys as liking the ADETS program, but they did not see the defendants as liking ADETS as much. A large proportion of respondents in all groups perceived ADETS as being primarily an educational program and not so much a measure to merely avoid active sentence. Although some respondents believed that it is difficult to change people's behavior with a course, a majority of them felt that ADETS is effective in changing some people's behavior, at least on a short term basis.

There is overwhelming agreement among respondents in seeing a need for a separate program for multiple offenders, because ADETS was considered primarily

beneficial to first DUI offenders. However, responses from judges and defense attorneys who did most of the referrals indicated that multiple offenders are currently being referred to ADETS, probably due to the limited number of programs now available for multiple offenders.

In terms of students' reactions to the course, they found the sections on "Alcohol and drug effects on driving skills" and "Personal action--avoiding a second DUI arrest" as being more helpful while the section on "Drugs and you" was considered as least helpful. More discussion time, more visual aids, and more case studies were mentioned by students as changes they would like to see in the ADETS curriculum.

Other suggestions were offered by respondents for improving the overall ADETS program. More vigorous follow-up of non-compliance cases, less time lag between school attendance and conviction date, better coordination with court and having court liaison persons available to the courts at all times were the major ones suggested by the respondents.

In conclusion, respondents perceived ADETS as primarily an educational program for first DUI offenders. The program is considered as a valuable resource to those who work with DUI offenders. It is considered by many as a program which has been administered quite fairly. However, some changes in the program are desirable in order to improve the overall processing of DUI cases through the court system and the ADETS program.

## 5. DOCUMENTATION OF SIMILAR SYSTEMS IN NEIGHBORING STATES

### 5.1 Objective

A component of our evaluative effort was a survey of neighboring states to learn if they had ADET-type schools, and if yes, what the components of their programs were. We also wanted to learn if there were particular aspects of these programs that might be integrated into North Carolina's program. A questionnaire Appendix 5 was sent to 9 states. All states except Pennsylvania responded to our questionnaire and many sent useful materials about their laws, curriculum, evaluations etc. The results of the survey follow.

All neighboring states have alcohol and drug education type schools such as those in North Carolina, but attendance at these schools is not mandatory in every state and criteria for eligibility also varies. Eligibility requirements are diverse and vary from allowing any person arrested for drunk driving to only allowing first time DUI convictees to attend. In North Carolina any first time DUI convictee (first DUI within 7 years) is eligible to attend the ADET school, but it is also left to the discretion of the judge to send anyone who in the judge's opinion would benefit from the course.

### 5.2 Fees

Fees for school participation vary from state to state. Each of the states surveyed places responsibility for payment on the participant. The variation in the fees is influenced by the type of program. Kentucky has the least expensive fee, \$25, while fees in Virginia may be as high as \$425 including additional treatment costs. North Carolina's fee is \$100 which is in the mid-range. Although Georgia and W. Virginia do not allow a waiver of fees, most states including North Carolina allow costs for indigents to be absorbed by the local program.

### 5.3 Comprehensiveness of Programs

As indicated above, there is some variability in the comprehensiveness of programs. Course lengths vary from 8 hours to 32 hours with most states having

an approximate course length of 10 hours. North Carolina's course length is 10 to 13 hours.

Few of the states polled follow the driving records of participants after course completion. South Carolina and Kentucky have followed the records of a sample of their students. Summary results from South Carolina which suggest that first offenders who successfully complete their ASAP program had 22% fewer subsequent DUI arrests than first offenders who did not enter the program in the first year. These same offenders, on the other hand, had 10% more arrests after two years. North Carolina, prior to this study, had not followed the driving records of its students.

#### 5.4 When Used as Sanction

One often mentioned criticism of ADET type schools is that they are sometimes offered as alternatives to license revocation or suspension. Attendance at North Carolina's ADETS usually results in a lowering of sanction severity. Half of the states polled had lowered the sanctions of school attendees usually with a reduction in the length of license revocation. Of those states not reducing sanctions, school attendance is mandatory for reinstatement of the driving privilege.

#### 5.5 Evaluation of Effectiveness

Of the states polled, Virginia, had not yet conducted an evaluation, but had assessed the evaluability of its program. Georgia had done a manual evaluation of 2,105 individuals and found a recidivism rate for DUI of 16.5. Alabama had conducted a time series analysis in 1977 of their DWI countermeasure program and estimated the equivalent effectiveness of their program to be 53 percent. Most of the other states had not conducted evaluation.

## 6. DUI RECIDIVISM AND CRASH EXPERIENCE OF ADETS ATTENDEES

### 6.1 Introduction

The primary purpose of the ADETS program is to achieve a change in knowledge and attitude on the part of attendees which will result in a reduction in their subsequent DUI recidivism and crash involvement. An ideal measure of program effectiveness would be a comparison of subsequent DUI recidivism and crash rates of persons attending the schools, with what their rates would have been had they not attended the schools. Since this cannot be done, an estimate of this effectiveness can be made by comparing the rates for those attending the schools with the rates of a similar group of persons convicted of the same offense but who did not attend the school.

ADET type schools have become an increasingly popular countermeasure to DUI in the U.S. Much of the work of planning and curriculum development and evaluation of this approach occurred in conjunction with Alcohol Safety Action Programs (ASAP) sponsored by the National Highway Traffic Safety Administration in the 1970's. A summary analysis of ASAP efforts with regard to rehabilitation indicated that:

- a. With regard to rearrest rates for DUI, social drinkers showed a slight benefit from educational type programs.
- b. Problem drinkers did not benefit in terms of reduced DUI recidivism from such programs.
- c. Neither group tended to benefit in terms of reduced crash involvement.

In part because of this information North Carolina directed its ADETS program towards first time DUI offenders, who are more likely to be social drinkers (Nichols, et al., 1978), and the focus of this analysis is on the effect the ADETS program may have on the subsequent driving performance of first offender DUI's.

The literature indicates that drivers attending alcohol treatment programs instead of losing their licenses have worse accident and violation experience than corresponding groups of drivers who receive license suspensions or revocations. For example, Hagen (1978) in evaluating alcohol abuse treatment as an alternative to driver's license suspension or revocation reports that a significantly greater proportion of those whose licenses were suspended or revoked were not involved in subsequent DUI violations and accidents than program participants who were provided with a twelve month alcohol abuse treatment program, yet did not have their licenses suspended.

Swenson (1980) in evaluating the effects of short-term rehabilitation found that there was no difference in rearrest rates for social drinkers assigned to short-term treatment or control conditions. On the other hand, he was able to demonstrate effectiveness for some of the more therapeutically oriented programs designed for problem-drinking DWI's.

Nichols (1978) reports on short-term rehabilitation studies that were conducted at eleven sites during the 1970's. In most sites persons with moderate drinking problems were selected. An evaluation of the effectiveness of treatment revealed significant differences in only two variables of the twenty three examined and one of the differences was negative--the treatment group had higher drinking behavior scores at six and twelve months. The authors concluded that while the results are not encouraging, they do not prove that such programs have no effect. Therefore, they state that the results should not be taken to suggest that such programs should be discontinued, but that "laws which require the attendance of convicted DWI's at education and/or rehabilitation programs in lieu of losing their license cannot be objectively supported on the basis that they results in a safer driving environment."

A few programs have indicated a positive effect. Reis (1982) in a study of education programs for first time DWI offenders in Sacramento, California found a significant reduction in DWI recidivism relative to the control group but no effect on accident involvement. Both the study and control groups did not have license suspensions.

## 6.2 Method

An ideal experimental design for the evaluation of an ADETS type program would call for persons convicted of the DUI offense, after receiving other sanctions, to be randomly assigned to either attend or not attend the ADETS program and then monitor and compare the driving experience of the two groups over time. However, Senate Bill 691 did not call for such random assignment but rather mandated that such schools be made available statewide. Additionally, it called for the reinstatement of full licensing privileges after six months for those who successfully completed the school, rather than the customary twelve months. Thus, those who attend the schools are unlikely to receive as severe a sanction in other respects as those who do not attend the schools. Specifically, those who attend and complete the school tend to receive a limited driving privilege for the first six months after conviction and receive full driving privileges after those six months are completed, those who do not attend the schools are less likely to receive a limited driving privilege and in any event do not receive full driving privileges until a full year after conviction.

Thus, the two groups--school and no-school--have different driving exposure in the first year after conviction with the school group having greater opportunity to drive and thus greater potential exposure to DUI rearrest, crashes and other untoward driving events. Of course, the intent of the program is to reduce the potential for recidivism and thus compensate for this increased exposure.

However, because of this potential difference in exposure between the school group and comparison group, we chose to make three different sets of comparisons between the two groups. One involves comparing the experience of each group beginning immediately after completion of school for the school group and beginning 46 days after conviction for the comparison group. (Forty-six days being the mean time from conviction to school completion for the school group.) Another comparison involved comparing the experience of the school group beginning six months after the start date with that of the comparison group beginning twelve months after the start date, being the point in time when both groups would first have full driving privileges restored. The third set of comparisons examined the experience of both groups beginning twelve months after the start date a point in time when both groups would have full driving privileges and would have had the same period of time since conviction.

As mentioned earlier, the comparisons were made between the experience of 1980 and 1981 first offender DUI or careless and reckless after drinking convictees. First offenders being those who had no alcohol related offenses on their record for the period seven years prior to their arrest for the current offense.

To identify persons eligible for the study a copy of the North Carolina Driver History File as of November 13, 1982 was obtained from the N.C. Transportation Computing Center. This file contained 5,158,159 records of which 515,749 had an indication of an alcohol-related event, or medical review. The 515,749 records broke down as follows:

35,756	were out of state drivers
4,049	were deceased
267,017	had no alcohol related event from 1980 on
1,586	had unusable computer records
207,341	had an alcohol-related entry since 1980

The 207,341 records were retained for further study.

65,082 were first offenders in 1980 or 1981 by the  
criteria stated above  
62,046 were second or multiple offenders 1980 or 1981  
80,213 had their first alcohol event of the period  
1980 on in 1982

of the 65,082 first offenders in 1980 and 1981  
36,759 were referred to ADETS and completed ADETS on  
their first attempt  
17,719 were not referred to ADETS  
10,604 were not convicted of DUI or C/R after drinking  
in 1980 or 1981 or did not complete ADETS on  
their first attempt

The actual study and comparison group for the analyses reported later  
number 33,825 in the study (ADETS) group and 16,429 in the comparison group  
because some individuals were excluded from the study because certain data  
elements used in the analysis were not on their records (e.g. age, sex, race  
etc.)

Interestingly, though the law intended the schools for first offenders,  
18,825 of the 1980-1981 multiple offenders were referred to the ADETS schools  
and completed them on their first attempt, 27,863 were not referred to ADETS and  
15,358 were not convicted of the relevant offense in 1980 or 1981 or did not  
complete ADETS on their first attempt.

The primary analysis focused on the experience of the 33,825 first  
offenders who completed ADETS as compared with that of the 16,429 who were not  
referred to ADETS. Cumulative quarterly recidivism rates on each of the outcome  
measures were computed for each group and compared using the techniques  
described in the analysis section. Since persons convicted throughout 1980 and  
1981 were included in the study and the cutoff date for outcome data was  
November 1982 the length of follow-up period varies with individual. All  
individuals included in the study had at least three full calendar quarters of

follow-up and some individuals had as many as eleven quarters with the number decreasing as the follow-up period becomes longer. Table 2.1 below shows the number of individual records available for analysis for each follow-up time frame.

Table 6.1 Number of records available for analysis by number of calendar quarters of follow-up.

	Calendar Quarters of Follow-up Time										
	1	2	3	4	5	6	7	8	9	10	11
School Group	33825	33825	33825	31282	26164	20729	15440	10728	5917	1790	26
Comparison Group	16429	16429	16429	15191	12573	10175	7951	5850	3183	997	0

### 6.3 Analysis of Recidivism Measures

Following the assignment of admissible subjects to either the study or comparison groups, their subsequent driving records were examined to compare rates of recidivism (DUI convictions, careless and reckless convictions, and accidents) between the two groups. For example, in the first quarter following completion of ADETS 729 (2.16%) of the 33,825 study group subjects were convicted of DUI or careless and reckless after drinking. In the same time period (beginning 46 days after their initial conviction, 197 (1.20%) of 16,429 subjects of the comparison group had convictions for those offenses.

Comparing raw recidivism rates can be misleading, however, if the composition of the groups differ with respect to certain characteristics which, in turn, are associated with differing recidivism rates (see, e.g., Fuchs (1979)). Tables 6.2 through 6.4 show the distributions of the characteristics age, race, and BAC at the initial DUI arrest for the two groups. While the distributions are similar the differences are statistically significant. Moreover, each of these three characteristics is also significantly

Table 6.2 Age Distributions

Group	Subject Age				Total
	<21	21-35	36-55	56+	
Study	1622 10.7%	18842 55.7%	8799 26.0%	2562 7.6%	33825
Comparison	1615 9.8%	10009 60.9%	3607 21.9%	1198 7.3%	16429

Table 6.3 Race Distributions

Group	Race		Total
	White	Nonwhite	
Study	26656 78.8%	7169 21.2%	33825
Comparison	11315 68.9%	5114 31.1%	16429

Table 6.4 Distributions of Initial BAC

Group	BAC				Special Codes*	Unknown	Total
	0-.15	.16-.20	.21-.54				
Study	16375 48.4%	8986 26.6%	4373 12.9%		1929 5.7%	2162 6.4%	33825
Comparison	8910 54.2%	2685 16.3%	1641 10.0%		1747 10.6%	1446 8.0%	16429

\*Includes too injured, too drunk

associated with DUI conviction rates. Biased estimates of recidivism rates could, therefore, be obtained unless these factors were taken into account. Other factors considered but found not to be significantly associated with differences in outcome measures between the two groups were geographical area of the state, sex and proportion convicted of careless and reckless driving after drinking.

The analysis of DUI recidivism was carried out by partitioning each of the two groups into forty mutually exclusive subpopulations defined by combinations of the levels of subject age, race, and initial BAC. Together with group this gave a total of 80 subpopulations, and within each subpopulation subjects were classified by whether or not they had a subsequent DUI conviction in some specified time interval.

A mathematical model was then fit to the percentage of subjects in each subpopulation having a subsequent DUI conviction. The model is of the form

$$\hat{P} = X\beta$$

where  $P$  is the vector of DUI conviction percentage (recidivism rates),  $X$  is a design matrix containing effects for group, age, race, initial BAC, and certain interactions, and  $\beta$  is a vector of model coefficients. The primary purpose of the modelling is to provide smoothed estimates of the recidivism rates within the subpopulations. That is, the estimated or predicted recidivism rate for a given subpopulation is based, through the model, on information in many subpopulations, as opposed to the raw rate based on information from the given subpopulation alone.

The next step in the analysis is to obtain overall group rates as weighted combinations of the predicted subpopulation rates. The weights are determined to yield overall group rates that would have been obtained had the distributions

of age, race, and initial BAC been the same within the two groups. Thus, any differences that remain between these overall group rates cannot be attributed to differences in the distributions of age, race, and initial BAC. The modelling procedure, GENCAT, also produces statistical tests of significance for group differences.

This same type of analysis was repeated for each of the three recidivism measures -- DUI convictions, careless and reckless convictions, and accidents -- and for several different time intervals. Since the average time for completion of ADETS was 45 days, one series of time intervals had as its starting date the completion of ADETS for study group subjects, and 46 days after the DUI conviction date for comparison group subjects. One series of recidivism rate comparisons was carried out for the time periods

- o the first calendar quarter following this starting date,
- o the first two quarters,
- o the first three quarters,
- o the first year following the starting date

A second series of comparisons was made with a starting date of one year after the completion of ADETS for study group subjects, and one year plus 46 days after the initial DUI conviction for the comparison group subjects. At these time points all subjects should again have full driving privileges. Five sets of analyses were done using these starting points and covering time intervals of one quarter through five quarters.

Other comparisons were made beginning with the third quarter following completion of ADETS for study group subjects and with the fifth quarter for the

other subjects. This period represents an interval when most subjects first regain full driving privileges. A comparison of total moving violation rates was also made over the first year following completion of ADETS.

The results of all these analyses are contained in Tables 6.5-6.7. In every case the recidivism rate for the study group exceeds that of the comparison group, and the differences are all highly statistically significant. Comparisons of the DUI conviction rates by time period are also shown in Figures 6.1 and 6.2

Comparisons were also made of the raw accident rates for night-time accidents and accidents where the subject driver was indicated by the investigating officer to have been drinking. The results of these comparisons are presented in Tables 6.8 and 6.9 and Figures 6.3 through 6.6. Again the differences between the two groups are all statistically significant with the group completing the school faring worse than the comparison group.

Unadjusted comparisons on the measures discussed above were also made between multiple offenders attending the school and not attending the school yielding similar results to those described above.

#### 6.4 Discussion

The salient finding of the recidivism analysis is that for every measure taken and for every time frame examined the experimental group (those attending the schools) fared worse than the comparison group. These differences remained even after adjusting for differences between the groups on measures found to be related to recidivism. These variables were age, race and BAC at time of arrest. As mentioned before, a more ideal experimental design to have followed in conducting the impact evaluation of the schools would have been to randomly assign first offenders to attend or not attend the schools and then monitor

Table 6.5 Recidivism Rates During First Year

Time Period	Measure	Study Rate	Comparison Rate	Difference	$\chi^2_1$	P
1st Quarter	DUI conviction	2.11	1.19	0.92	59.18	.000
	Reckless convt.	1.03	0.58	0.45	30.85	.000
	Accidents	2.11	1.16	0.95	67.17	.000
1st Two Quarters	DUI conviction	4.26	2.42	1.84	118.44	.000
	Reckless	1.91	1.21	0.70	38.44	.000
	Accidents	4.21	2.56	1.65	98.94	.000
1st Three Quarters	DUI conviction	6.29	3.54	2.75	182.93	.000
	Reckless	2.82	1.74	1.08	62.46	.000
	Accidents	6.40	3.79	2.61	167.11	.000
1st Year	DUI conviction	7.99	4.39	3.60	236.29	.000
	Reckless	3.87	2.20	1.67	107.17	.000
	Accidents	8.45	4.77	3.68	242.63	.000

Table 6.6 Recidivism Rates Following First Year

Time Period	Measure	Study Rate	Comparison Rate	Difference	$\chi^2_1$	P
5th Quarter	DUI conviction	2.20	1.13	1.07	63.54	.000
	Reckless convt.	0.76	0.47	0.29	12.49	.000
	Accidents	1.83	0.94	0.89	51.78	.000
Quarters 5-6	DUI conviction	3.41	1.90	1.51	62.19	.000
	Reckless	1.49	1.06	0.43	10.39	.000
	Accidents	4.29	2.38	1.91	83.12	.000
Quarters 5-7	DUI conviction	5.29	3.22	2.07	55.41	.000
	Reckless	2.09	1.30	0.79	20.92	.000
	Accidents	6.27	3.75	2.52	73.55	.000
Quarters 5-8	DUI conviction	6.98	4.32	2.66	49.64	.000
	Reckless	2.77	1.85	0.92	14.69	.000
	Accidents	7.57	4.72	2.85	55.82	.000
Quarters 5-9	DUI conviction	8.33	5.07	3.26	34.96	.000
	Reckless	3.69	2.48	1.21	10.65	.000
	Accidents	8.98	6.39	2.59	19.84	.000

Table 6.7 Other Recidivism Rate Comparisons

Time Period	Measure	Study Rate	Comparison Rate	Difference	$\chi^2_1$	P
3rd Quarter Study Group vs 5th Quarter Comparison Group	DUI conviction	2.11	0.93	1.18	86.96	.000
	Reckless convt.	0.98	0.47	0.51	33.08	.000
	Accidents	2.23	1.13	1.10	68.93	.000
1st Year	All violations	19.81	11.74	8.07	534.68	.000

Figure 6.1 Cumulative DUI Conviction Rates by Group  
Beginning at Completion of ADETS

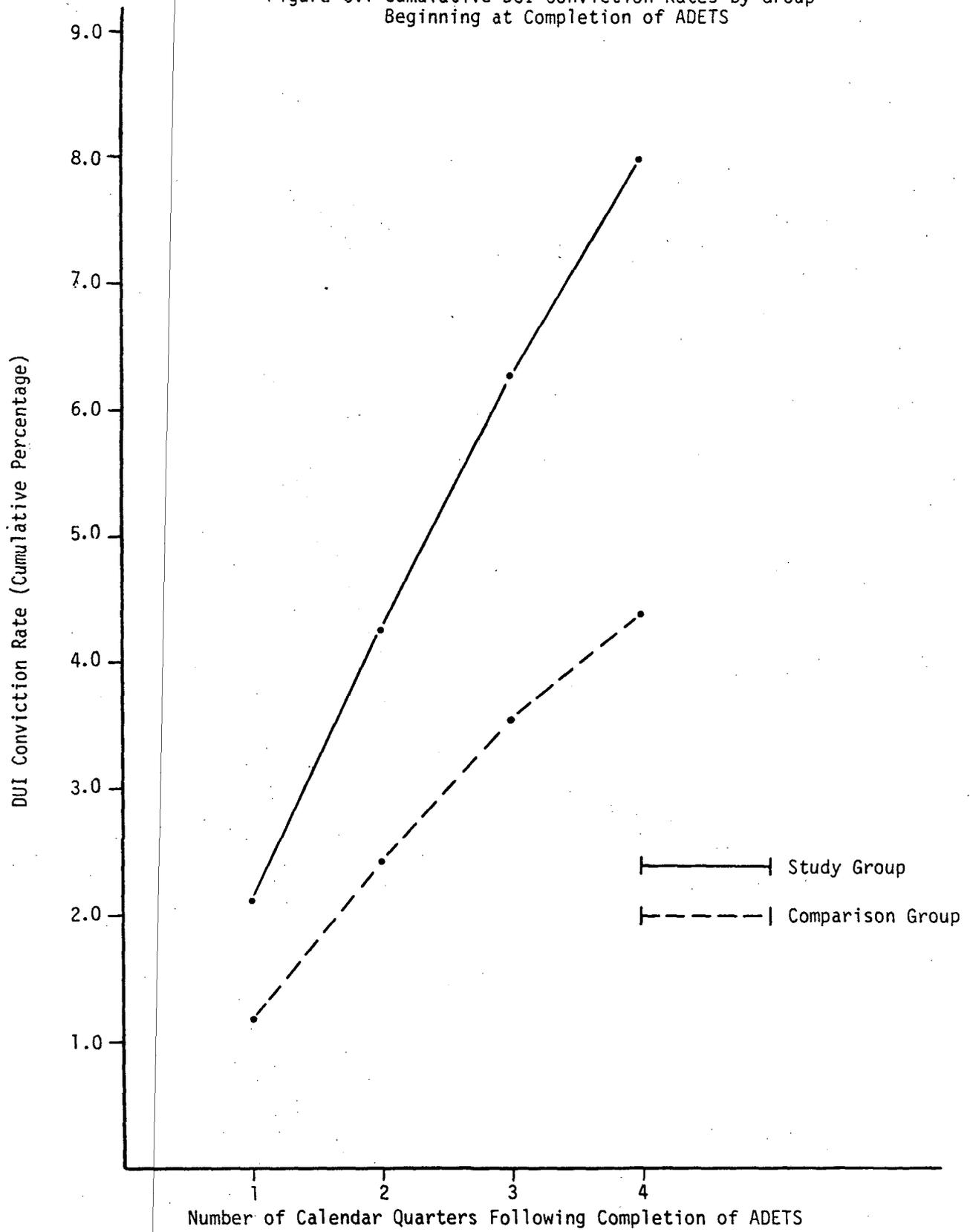


Figure 6.2 Cumulative DUI Conviction Rates by Group  
Beginning One Year After Completion of ADETS

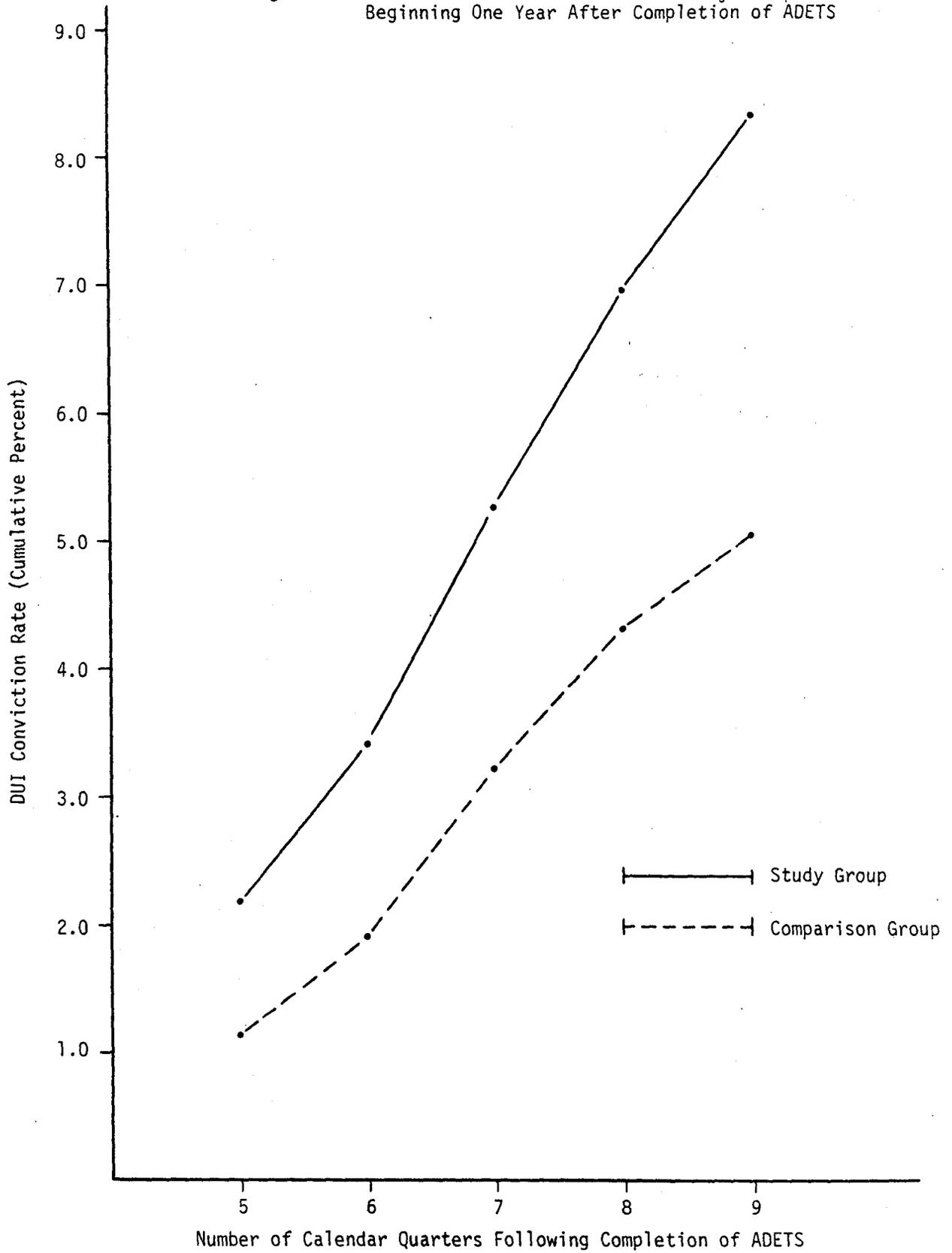


Table 6.8 Unadjusted Alcohol/Related (A/R) Nighttime Accident Rate (Cumulative Percentage) During First Year

Time Period	Measure	Study Rate	Comparison Rate	Difference	$\chi^2_1$	P
1st Quarter	A/R accidents	.69	.38	.31	17.6	<.001
	Nighttime accs.	.70	.42	.28	14.4	<.001
1st Two Quarters	A/R accidents	1.35	.91	.44	17.4	<.001
	Nighttime accs.	1.67	.91	.76	19.5	<.001
1st Three Quarters	A/R accidents	2.11	1.35	.76	35.3	<.001
	Nighttime accs.	2.15	1.31	.84	42.7	<.001
First Year	A/R accidents	2.74	1.65	1.09	51.7	<.001
	Nighttime accs.	2.91	1.71	1.20	59.5	<.001

Table 6.9 Unadjusted Alcohol/Related (A/R) Nighttime Accident Rate (Cumulative Percentage) Following First Year

Time Period	Measure	Study Rate	Comparison Rate	Difference	$\chi^2_1$	P
5th Quarter	A/R accidents	.72	.37	.35	17.6	<.001
	Nighttime accs.	.79	.41	.38	19.4	<.001
Quarters 5-6	A/R accidents	1.32	.80	.52	16.6	<.001
	Nighttime accs.	1.58	.89	.69	24.2	<.001
Quarters 5-7	A/R accidents	2.04	1.22	.82	20.4	<.001
	Nighttime accs.	2.37	1.36	1.01	27.1	<.001
First Year	A/R accidents	2.52	1.38	1.14	23.4	<.001
	Nighttime accs.	2.84	1.71	1.13	20.4	<.001
Quarters 5-9	A/R accidents	3.06	1.95	1.11	9.8	<.005
	Nighttime accs.	3.43	2.32	1.11	8.6	<.005

Figure 6.3 Cumulative A/R Accident Rates by Groups Beginning at Completion of ADETS

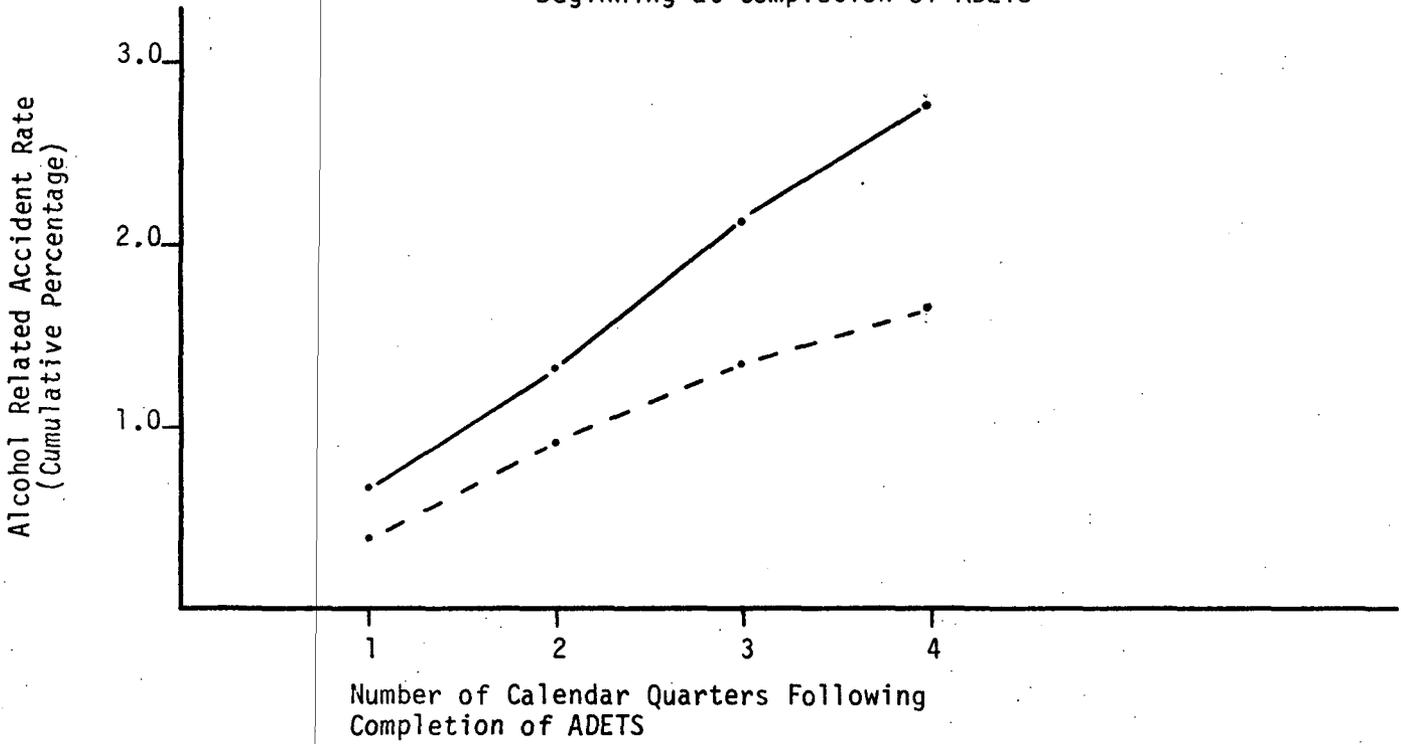


Figure 6.4 Cumulative A/R Accident Rates by Group Beginning One Year After Completion of ADETS

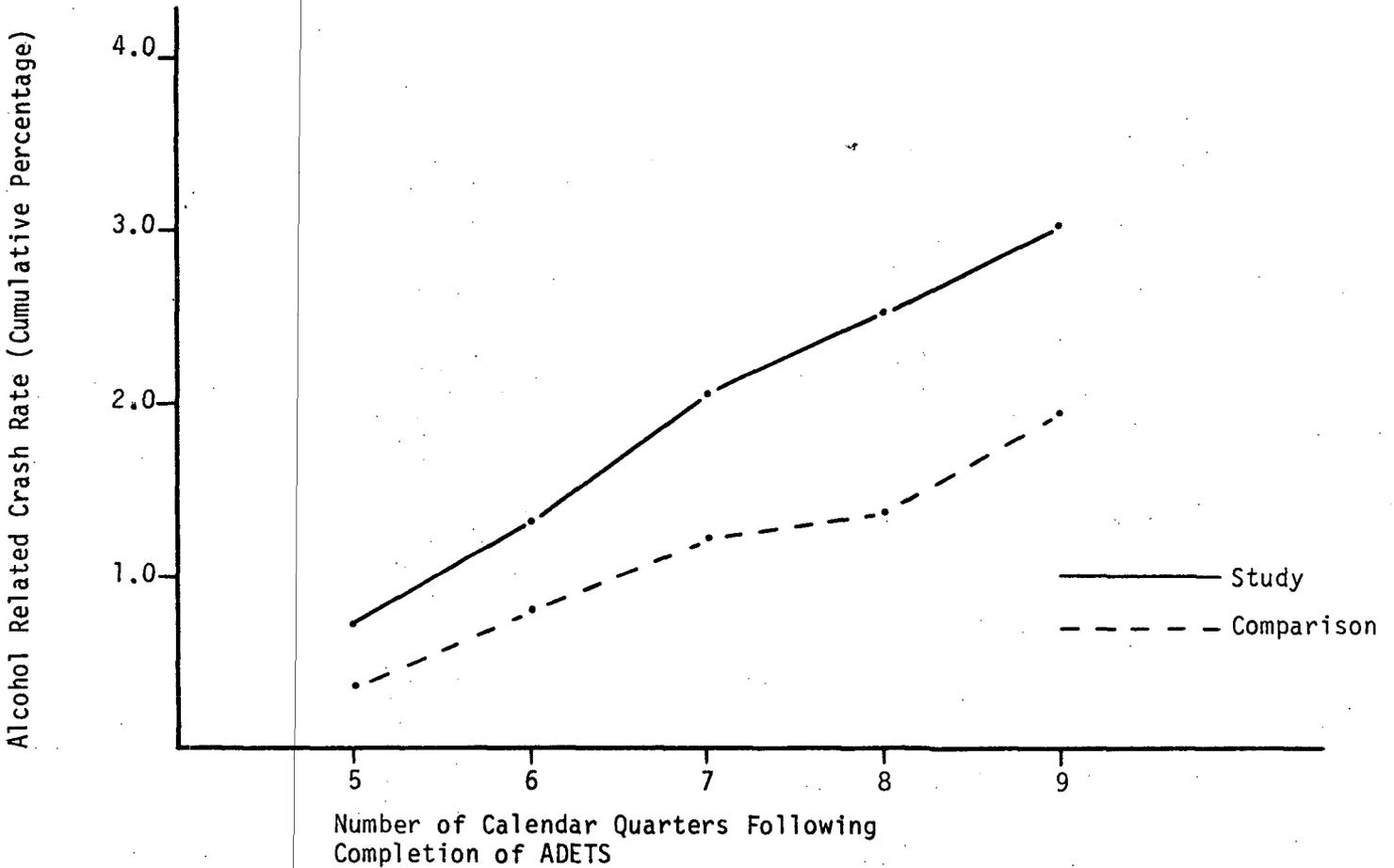


Figure 6.5 Cumulative Nighttime Crash Rates by Group Beginning at Completion of ADETS

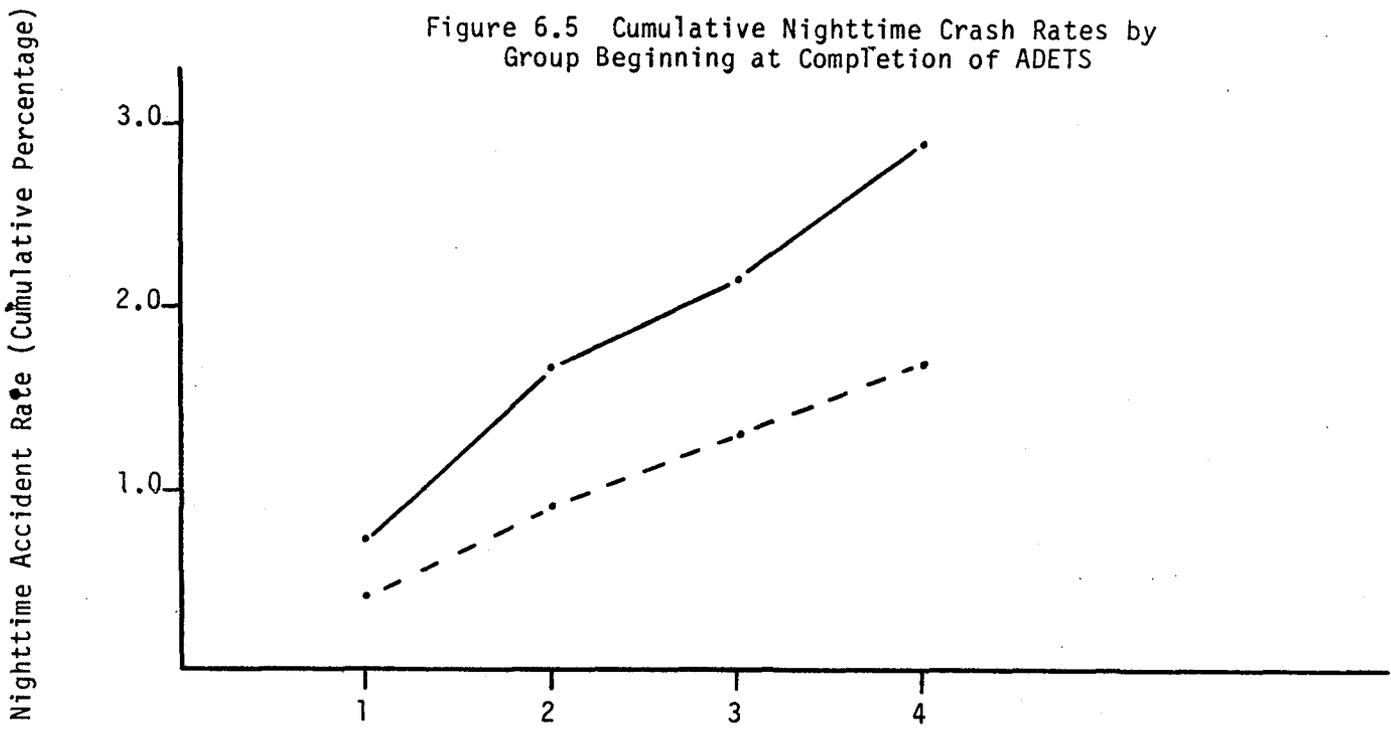
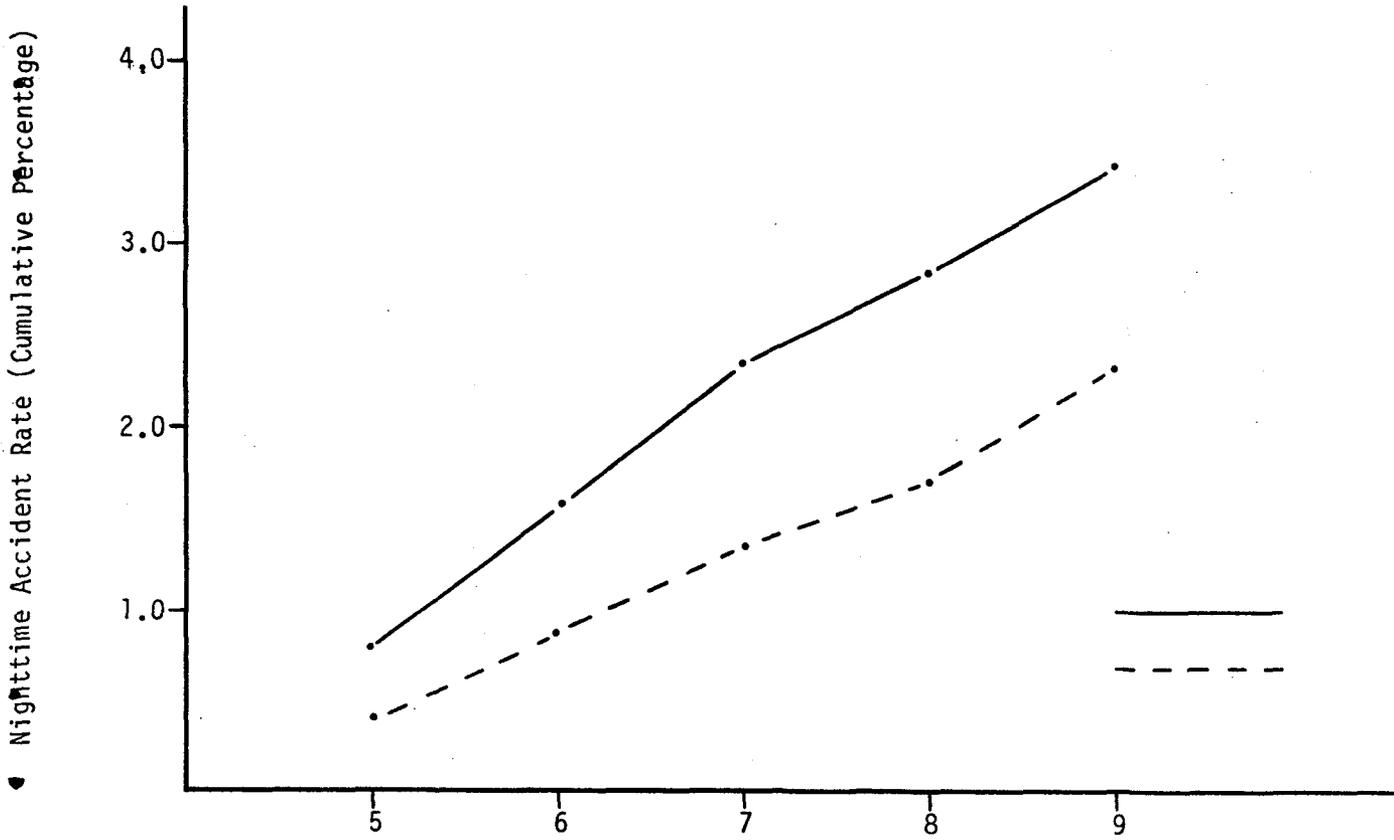


Figure 6.6 Cumulative Nighttime Crash Rates by Group Beginning One Year After Completion of ADETS



their DWI conviction and crash experience. Of course, that approach was not feasible since, by statute, the schools were to be made available statewide. This means that we cannot be certain that the two groups do not differ in other respects that may be related to DWI recidivism or crash involvement such as courtroom dynamics, socio-economic status or miles driven.

However, we do know that two groups differed dramatically in the license suspension sanctions imposed on them. The law providing for the schools in effect shortened the DMV imposed license suspension from one year to six months for those who successfully completed the school and allowed a court provided limited driving privilege during the six-month license suspension. Those who did not attend the schools received the full one-year license suspension from DMV and were unlikely to receive a limited driving privilege from the courts. Of the sanctions currently applied to DWI offenders which have been carefully studied, license suspension or revocation is clearly the most effective in reducing DWI recidivism and crash experience. Thus, the schools were operating in the context of replacing a relatively effective sanction rather than being in addition to that sanction. In order to have shown a positive effect relative to the comparison group the school group would have had to have shown not only a recidivism reduction comparable to that obtained through license suspension, but one that was measurably greater. This clearly was not the case, but it could be argued that it is unreasonable to expect such an effect on such a potentially deeply ingrained alcohol related problem as DWI from a 10 to 13 hour exposure to classroom instruction. Nonetheless, that is how the ADETS program was mandated to be implemented and its effectiveness in that context is the subject of this study.

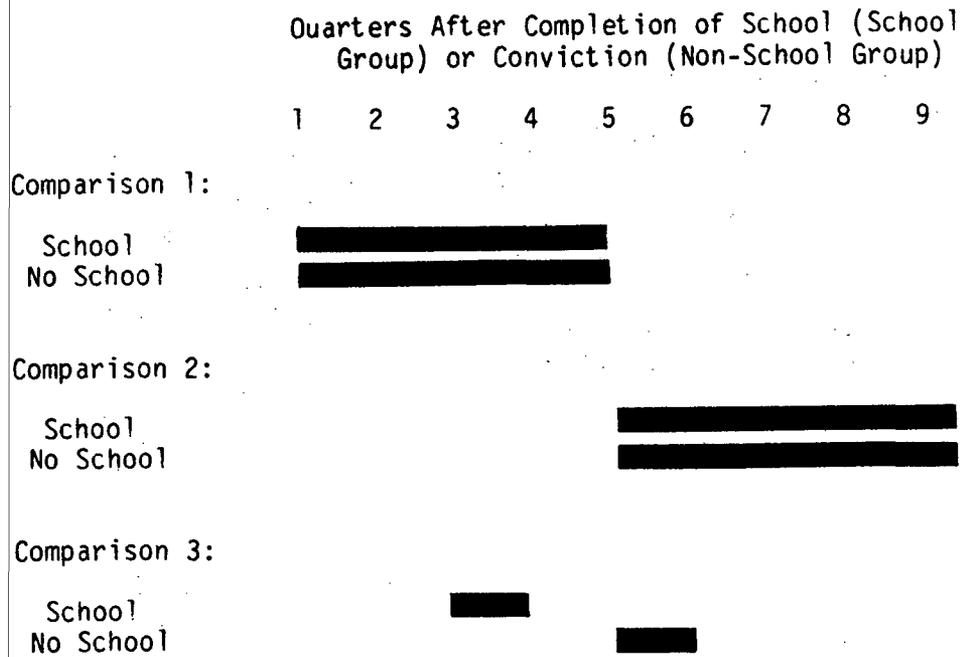
As mentioned in the analysis section, comparisons on recidivism measures between first offenders attending the school versus ones not attending the

school were made using three sets of time frames. They are depicted pictorially in Figure 6.7. Comparison 1 involves comparing cumulative quarterly recidivism rates for the two groups beginning after completion of the school for the school group and 46 days after conviction for the comparison group. During this period the school group DUI convictees would generally be expected to have a limited driving privilege for the first six-months and full driving privileges thereafter. Nearly all the DUI convictees in the comparison group had their driving privileges suspended without benefit of limited privilege virtually throughout all four quarters. Careless and reckless after drinking convictees were less likely to receive an active license suspension in either group, but the groups did not differ in the proportion of careless and reckless suspendees. Thus, the overall driving exposure of the two groups in this first set of comparisons would be expected to be different with individuals in the school group expected to be driving much more than the comparison group, and, thus, logically more likely to be involved in adverse driving events. That was the case. The results of these comparisons are shown in Tables 6.5 and 6.8. Figures 6.1, 6.3 and 6.5. If the schools did have a positive effect it was not enough to offset the increased driving exposure of the school group and whatever additional deterrent effect the license suspension actions may have had. Though this set of comparisons may not seem "fair" to the schools because it examines a period of time when the school group was driving and the comparison group was less likely to be driving, it is an important and "fair" comparison to make since the additional driving privileges were in effect an inducement to attend the schools and thus a cost of having the program.

A second set of comparisons examined the driving performance of the two groups beginning one year after completion of ADETS for the school group and 46 days plus one year after conviction for the non-school group. The rationale for this set of comparisons is that it is a period when both groups should have full

Figure 6.7

Time Frames of Major Comparisons Made in ADETS Evaluation



driving privileges restored (and thus reasonably comparable exposure) and begins the same time after conviction for both groups. The results of these comparisons appear in Tables 6.6 and 6.9 and Figures 6.2, 6.4 and 6.6. Again the comparison group fared much better than the school group, probably because of a continuing deterrent effect from the more stringent license suspension of the comparison group.

A third comparison was made examining the experience in the third quarter after completion of ADETS in the school group with the fifth quarter after conviction for the comparison group. This represents the point in time when both groups were expected to have full driving privileges first restored. Again the school group fared significantly worse than the comparison group also probably because of a greater deterrent effect attributable to the more severe license suspension for the group not attending the schools. Table 6.7 summarizes these results.

Given the limitations on study design discussed earlier and the areas to which we were able to provide statistical control, the most plausible explanation for why the ADETS group fared worse than the comparison group on all measures is that the comparison group received more severe license sanctions than the ADETS group and the deterrent effect of those sanctions was much greater than any that the school may have had. This compels the recommendation that programs such as alcohol safety schools be employed in addition to rather than in place of other sanctions for DWI offenders.

The recently passed Safe Roads Act of 1983 is a sweeping rewrite of North Carolina's DUI laws. It calls for attendance at ADETS for first time DUI convictees in addition to any other sanctions imposed. Another provision of the law calls for a alcohol problem assessment for any person whose BAC is at or above .20. Persons determined to be problem drinkers are likely to be placed in

some form of treatment program. These two provisions of the law create a setting in which an ADETS type program has a greater chance of succeeding. However, it cannot be assumed that ADETS will have a beneficial effect in this new setting. Since such programs are not without a significant cost to North Carolinians, it is essential that ADETS' effectiveness in this new setting be determined.

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