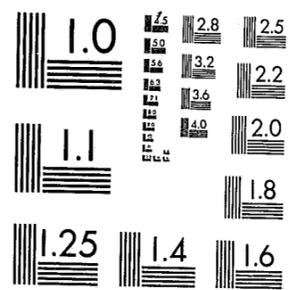


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# SUMMARY OF NATIONAL ALCOHOL SAFETY ACTION PROJECTS

U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC  
SAFETY ADMINISTRATION  
WASHINGTON, D.C. 20590



80249

## TABLE OF CONTENTS

Chapter	Page
I Executive Summary	1
II Overall Impact of the ASAP Program	7
III ASAP Costs and Revenues	21
Bibliography	27

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## I. EXECUTIVE SUMMARY

### NATURE OF ALCOHOL PROBLEMS

Alcohol is the drug of violence—suspected of involvement in as many as one-third of all suicides, half of all homicides, and one quarter of all nontraffic accidental deaths (Department of HEW studies). It is recognized as a major factor in child abuse and marital violence. More than 200,000 premature deaths each year are associated with alcohol use and hundreds of thousands of persons suffer illness or injury. The deaths and injuries resulting from drunken driving are a particularly tragic and costly manifestation of this national problem, since they involve thousands of innocent roads users.

It is not possible to understand or attack the highway safety aspects of this problem outside of the larger context of problem drinking in America. The HEW estimates that societal losses due to alcohol abuse run to \$42 billion a year, such costs resulting not only from the 800,000 individuals under treatment for alcoholism at any given time, but also from the injury and productivity losses due to excessive alcohol use by non-alcoholics.

American drinking practices can be classified by the quantity and frequency of consumption and the extent of the "problems" (i.e., employment, marital, health and legal) produced. These two variables are not necessarily perfectly correlated, but they obviously tend to vary together. Individuals can be arranged along a continuum based on their use of alcohol—from "abstainers" at one end to "alcoholics" at the other. Moving from one end to the other along this continuum, variations are found in: (1) quantity and frequency of drinking, (2) psychological dependence on alcohol, (3) probability of involvement in violence, (4) frequency of social problems and (5) physiological dependence on alcohol.

The realization that this correlation exists is important to the development of programs to reduce the problems associated with alcohol abuse. Programs including educational efforts, or mass media appeals, or legal sanctions to deter dangerous behavior are more likely to be successful with drinkers who are not psychologically or physiologically dependent on alcohol. For those who are, medical

treatment and rehabilitation must take the place of logical appeals and purely educational efforts.

Extensive studies have been done on the development of drinking patterns, problem drinking, and the causes of alcoholism. While there are many individual variations, evidence of a general pattern emerges. Young males age 20 to 25 report the largest number of "problems" related to drinking, despite their lower frequency and, particularly, lower quantity of alcohol consumption than older males (ages 30 to 40). Evidence suggests that many of those young men reporting such problems "mature out" of this type of difficulty, perhaps due to life style changes resulting from marriage and full time employment. Few, if any, seek or receive treatment for their alcohol problems.

The individuals ultimately treated in medical or rehabilitation facilities tend to be older (average in 40's) and arrive after a decade or more of "symptomatic drinking." Since denial is a persistent feature of the problem drinking alcoholic syndrome, individuals rarely seek assistance of their own volition. Rather, they resist medical help until forced into treatment by job, health or family pressure. Many of the organizations that provide assistance to alcoholics (i.e., Alcoholics Anonymous) are specially designed to rehabilitate those who have "hit bottom." The problem in dealing with such individuals is that they have few societal supports (job, family and finances) left to assist in their recovery. Prognosis is improved if alcoholism is detected in its early stages.

Leaving aside the turn-of-the-century prohibition campaigns, little effort has been directed at alcohol abuse prevention. Most of the funding and effort is aimed at treating the illness once it appears in its most debilitating form. Certain efforts, such as the alcoholism programs initiated by private industry, are effective in early identification of potential alcoholics. What is needed are (1) programs directed at ameliorating the losses due to "problems" produced by alcohol (such as drunk driving accidents) among otherwise normal "social" drinkers, and (2) programs directed at detecting potential alcoholics in the earliest stages of the disease and bringing them into treatment at a stage when the prognosis for recovery is relatively bright.

## TRADITIONAL DRUNK DRIVING PROGRAMS

Drunken driving is an early symptom of problem drinking that can provide the case finding system for potential alcoholics that is required if we are to prevent the spread of this public health problem. For 70 years this country has had a system for dealing with drunk drivers that relied primarily on mass media appeals ("If you drink, don't drive!") and on deterrence through the criminal justice system aimed at the arrest, conviction and punishment of offenders.

By its nature, this effort was primarily directed at reducing the "problems" caused by social drinkers, who might respond to educational efforts or enforcement threats. Evidence from studies funded by the Department of Transportation indicate that this effort has, at best, been only partially successful.

Currently, up to 10 percent of the drivers on the roads on weekend nights are legally impaired by alcohol, and at least one-third of those arrested for drunk driving are identified as social drinkers. The traditional system for dealing with the impaired driver has not been fully effective because: (1) it did not contain programs for dealing with the problem drinker (who was unlikely to respond to educational efforts or be deterred by law enforcement); and (2) the system was not fully effective with social drinkers because adequate appeals were not developed, and the criminal justice system could not provide a uniformly high level of apprehension coupled with a high probability of conviction and imposition of a significant penalty.

Evidence for the lack of rigorous enforcement was uncovered by NHTSA (National Highway Traffic Safety Administration) studies indicating that the average police officer on traffic duty made only two drunk driving arrests per year. Across the nation, only one in one to two thousand drunk driving trips resulted in an arrest. This failure of the community control system to produce a high level of apprehension and conviction is due to a number of problems: (1) the on-and-off nature of support for the effort; (2) inability of the courts to process such cases rapidly; (3) the public belief—reflected in the action of juries—that drunk driving was not really a serious offense and that "There but for the grace of God go I"; (4) the large amount of administrative work required of the police officer in making a DWI arrest.

Whether it is possible to develop an effective deterrent program for drunk driving has been the source of considerable scientific controversy. It is noteworthy that the implementation of the Road Safety Act of 1967 in Britain providing for toughened drunk driving laws produced a sizeable but temporary reduction in nighttime accidents.

This was effected through a great deal of publicity and a

small increase in enforcement. More significant is the recent survey data from Scandinavia indicating that the number of drivers on the road with low or moderate amounts of alcohol in their bodies is significantly smaller (by a factor of 10) than in the United States. At the same time, the number of drivers at very high blood alcohol levels is almost the same as in the United States. This has been interpreted as indicating that the notoriously tough treatment given drunk drivers in Scandinavia (long driving suspensions and jail sentences) is effective in deterring social drinkers with low or moderate blood alcohol levels but not effective in dealing with the problem drinkers with high blood alcohol levels.

## THE NHTSA ALCOHOL SAFETY PROGRAM

Following the establishment of the Department of Transportation in 1967, the alcohol safety effort was launched with a special study provided for in the Highway Safety Act of 1967. This study, the Secretary's 1968 Report to the Congress on *Alcohol and Highway Safety*, illuminated the extent of the losses due to drunk driving and focused on the role of the problem drinker in these accidents. As a result of this problem description and analysis, a program was developed to test the capability of traditional community institutions to control the drinking driving problem. This program involved the establishment (between January 1971 and September 1972) of 35 Alcohol Safety Action Projects (ASAPs) in communities throughout the nation.

While the traditional community agencies that have always dealt with the alcohol safety problem (i.e., the courts, the police, schools, and other educational facilities) were to be utilized in this program, two novel features were to be applied. First, a special management office was to be established that would ensure an integrated, systems approach to the drunk driving hazard. This would ensure that both the police departments and the courts were provided with the resources to handle a greatly increased number of Driving While Intoxicated (DWI) offenders, and that a public information effort would be mounted to support this activity. In this way it was hoped to deter social drinkers from drunk driving.

A second, novel portion of the ASAP effort was directed at developing systems for identifying problem drinkers among the DWI offenders and referring them to appropriate treatment agencies. Through this effort it was hoped that the problem drinkers, who could not be deterred from drunk driving, might be treated for their alcohol problem and ultimately removed from the drinking driver population.

The ASAP program included 35 projects, each of which was operational from two and a half to five years and involved an expenditure of \$88 million of Section 403

funds between 1970 and 1977. These projects were generally successful in meeting their most immediate goals:

*Enforcement:* At most sites the police were able to double or triple the number of drinking driving arrests. The efficiency of the enforcement process was enhanced by the streamlining of arrest procedures, the use of improved breath-testing devices and specialized training, and, in some areas, through the use of mobile vans. This enforcement experience has been codified and provided to the States in training manuals and other documents.

*Courts:* The ASAP courts were successful in developing procedures—usually different in each community—that permitted much more rapid and efficient processing of DWI cases while preserving traditional judicial safeguards for the defendants. Particularly noteworthy was the development of rapid screening methods for the identification of problem drinkers by court personnel with little specialized training in alcoholism.

*Treatment:* Overall, approximately a quarter of a million drunk drivers, of which two-thirds were problem drinkers, were referred to education or treatment programs by the ASAPs. When compared with a fine alone, almost any type of education or treatment program appeared to improve the subsequent driving record of social drinkers. The short term treatment efforts for problem drinkers mounted by the ASAPs appeared to be less successful. Only the use of antabuse, which prevents drinking, appeared to be effective over the short time period the problem drinkers were under court control. Improved short term programs, particularly methods for motivating problem drinkers to enter long term programs, are required if this aspect of the community control system is to work effectively.

*Public Education:* Mass media programs were developed by the ASAPs not, as in the past, to directly affect drinking driving behavior but, rather, to enlist public support for ASAP operations. These programs proved effective in increasing public awareness and knowledge of the drinking driving problem and in increasing support for ASAP activities and organizations. It was not possible, however, to measure their direct effect on drinking driving behavior.

*Overall Impact:* A major effort was made to evaluate the overall impact of the ASAP program. Since the projects were short term, there was relatively little probability that any gains associated with the identification and treatment of problem drinkers would show up in the accident data. Reduction in crash levels, if any, would be expected to occur as a result of the increased deterrence of social drinkers that might be produced on a relatively rapid basis through the intensified enforcement effort. The most available and reliable criterion for this effort was nighttime fatal crashes, a large proportion of which (70 percent

to 80 percent) are alcohol-related. The 35 ASAPs were compared with 25 non-ASAP communities chosen to be similar on those variables most related to crash rates. It was found that 12 of the ASAPs (35 percent) demonstrated statistically significant decreases, while none of the 25 non-ASAP sites showed a significant decrease. In terms of this one measure of impact, therefore, the ASAPs have demonstrated modest but significant evidence of effectiveness.

## CONCLUSIONS

As intended, the Program demonstrated how and where the traditional system for controlling drinking drivers needs improvement. Although various projects reached high efficiency levels towards the end of their three year terms, it became obvious (in light of the results of reliable evaluations) that improvements are still needed. Enforcement needs to be maintained at a high level. Prosecutors and judges can speed their processing of cases and lower their costs with little extra effort. Courts need the capability for presentence investigation and probation, and both activities can be carried out more cheaply than expected. Education and treatment modalities need to make much bolder experiments in search of effective responses to problem drinkers. The whole area of court sanctions needs much more study, experimentation, and evaluation to match packages of sanctions to both offenders and different kinds of court attitudes. Investment in the quality and accuracy of records systems is not only worthwhile but essential. Evaluation—an experience almost completely new to the criminal justice system—is an essential tool for the effectiveness of both sanctions and the court system as a whole.

Further, as a result of the projects, it is now known not only what needs to be done but how to do it. Even though experimentation must continue, an assortment of techniques and systems has come into existence which are good enough to offer to other jurisdictions.

### *Enforcement*

In the area of enforcement we have learned the following:

- arrest-rates can be increased permanently and economically by use of specially trained selective enforcement patrols;
- investment in special equipment is necessary for the credibility of police testimony;
- investment in special technology can be limited; purchase of pre-arrest breath-testers, for instance, is much more cost effective than purchasing of television cameras;

- patrol officers tend to cooperate with any system as long as they do not see it as subverting their activities, especially in individual cases—e.g., informal plea bargaining.

#### *Adjudication*

In the area of adjudication, the following results can be reported:

- the court should concentrate more on handling cases that do not reach a full trial than on those that do (less than 10 percent in a typical jurisdiction);
- cooperation between prosecutors and judges produces economical and fair adjudication systems;
- plea bargaining should be on the record, formalized, systematic, and purposeful, based on standard criteria and accurate records;
- presentence investigations can be conducted quickly and cheaply;
- probation serves a monitoring rather than a counseling function, especially with persons in treatment programs;
- report back systems can be easily designed and run on the basis of good record systems;
- sentencing should create packages of sanctions appropriate to the offender's drinking status and allowing the court considerable flexibility;
- legislation affecting the courts should be enacted only after thorough investigation of probable court responses;
- attention to court procedures can enable handling of triple the present caseload of DWI offenses without adding new prosecutors or judges;
- sanctions should be used to provide an incentive for cooperation with the court over the long term as well as for punishment.

#### *Rehabilitation*

In the area of rehabilitation and education, the following general results can be reported:

- lecture-oriented DWI schools do not affect the behavior of most problem drinkers and should not be used for them;
- problem drinkers respond better to interaction-oriented schools than to lecture-oriented schools;

- social drinkers sent to schools do generally better than those not sent to schools, but there may be even cheaper alternatives;

- misdiagnosis, and diagnosis not followed up by an appropriate referral, do more harm than good;
- experimentation should continue to define the proper modalities, curricula, and staffing for evaluating and treating drinking drivers;
- persons referred to and monitored by the court tend to attend and remain in treatment programs for the duration of court control, manifesting positive changes in attitude and behavior during that period;
- one shot programs, whether educational or therapeutic, are not enough to change the behavior of many drinking drivers, especially problem drinkers.

#### *Public Information*

In the area of public information and education, the following results can be reported:

- the general public responds to PI&E campaigns by changing knowledge, attitudes and significant behaviors;
- Public Information & Education (PI&E) campaigns do not alone change drinking drivers' behavior, but a fear-of-arrest campaign can change drinking driving patterns, at least for the short term;
- campaigns with special messages for special target groups are more effective than general public campaigns alone.

#### *Program Funding*

An additional finding of special interest, based on a careful cost analysis, was that integrated-systematic drunk driving programs such as the ASAPs could pay their own way, with a minimum impact on tax revenues. The drunk driver is unusual among criminal offenders in that he usually has considerable financial resources. He owns a car, he has a job, he is married with a family. He is, therefore, in a position to support, through fines and/or fees, the additional effort required by community agencies (police, courts, treatment centers) to mount a special program to apprehend drunk drivers, process them through the courts and refer them to short term treatment. Cost analysis of the ASAP efforts indicated that, if approximately \$200 could be collected from each individual convicted of drinking and driving, the basic cost of the program could be met from this source.

The possibility of setting up self-supporting drunk driver programs throughout the country offers, in addition to any safety benefits, a major new opportunity for early detection and treatment of alcoholics. Currently, no more than one percent of the drivers licensed in the United States are arrested for drunk driving. In ASAP communities, however, arrest rates were more than doubled, in some cases rising to as high as three percent of the licensed drivers in the locality. If the enforcement of drunk driving laws could be organized on a systematic, pay-as-you-go basis in all localities, the national arrest level might be raised to between two percent and three percent. With approximately 130 million drivers, this would result in 3 million arrests. Experience indicates that, of those arrested, two-thirds would be problem drinkers. Over time, this should provide an opportunity to

intercede with a large portion of the Nation's 10 million problem drinkers.

To take advantage of this opportunity, treatment programs that are effective in diverting the drunk driver from the path to alcoholism must be developed. This requires an emphasis on research into methods applicable to younger individuals with less severe symptoms than those currently in alcoholism treatment programs. Historically, prevention has been more effective in improving public health than treating the disease once it has occurred. The drunk driving enforcement system offers one method for early detection and prevention of alcoholism. This system could bring into treatment up to twice the 800,000 currently handled by all of the Nation's alcohol programs.

## II. OVERALL IMPACT OF THE ASAP PROGRAM

### BACKGROUND

For some 70 years we have had a "system" for dealing with drivers whose performance is impaired by alcohol. Legislation forbids them to drive when impaired, police arrest them for doing so, and prosecutors take their cases to court, where their guilt or innocence is determined by judge and jury. The traditional penalties for a misdemeanor offense (jail and fine) are supplemented by actions against the driver's license, and the private sector increases its insurance rates for persons convicted of Driving While Intoxicated (DWI). The effectiveness of this system in preventing alcohol-related accidents has never been measured, but accident figures suggest it is not effective enough.

Though the United States has for sometime had the best highway safety record in the world, there were still 54,800 fatalities in 1970, and alcohol was thought to be involved in half of all fatal crashes. The problem is worldwide. As the Chairman of the International Committee on Alcohol, Drugs, and Highway Safety (Robert Borckenstein) has pointed out, as a nation improves its general highway safety record, alcohol-related accidents emerge as a "stubborn residue" not susceptible to easy change<sup>1</sup>.

The system for dealing with drinking drivers has been almost entirely State and local in nature. Prior to 1970, the Federal Government was not involved, but in that year the U.S. Department of Transportation (DOT) announced a National Emphasis Program in the area of alcohol safety. The Program was a response to the landmark 1968 *Alcohol and Highway Safety Report* to Congress which indicated that alcohol use led to 25,000 deaths each year. The effort to reduce this problem became one of the top priorities for the newly created National Highway Traffic Safety Administration (NHTSA). Through a series of internal and external conferences,<sup>3 4</sup> a plan was developed which involved the solicitation of State and community participation in a nationwide program of "Alcohol Safety Action Projects" or ASAPs. This was the first full-scale effort by the Federal Government to examine and improve the 70 year old community level system for taking action against drinking drivers.

What situation did the Program face in 1970? Initial studies leading to the ASAP program revealed the following picture of the basic problem, and the limitations of the local communities drinking driver control systems:

- *The Alcohol Safety Problem:* Alcohol-related crashes result from heavy drinking by both pedestrians and drivers. In 1970, the characteristics, causes, and remedies for pedestrians accidents were generally less well-understood than was the case for crashes due to drunk drivers. (Since that time this deficiency has been partly overcome through NHTSA research<sup>5</sup>.) As a result, the alcohol safety program that emerged during the early days of NHTSA focused primarily on drivers. Traditionally, the drinking driving problem was viewed as resulting from any use of alcohol by drivers. The 1968 Alcohol and Highway Safety Report<sup>2</sup>, however, stated that:

"Research shows that more than half of adults use the highways, at least occasionally after drinking. . . . Alcoholics and other problem drinkers who constitute only a small minority of the general population, account for a large part of the overall problem."

This led to an understanding that drinking drivers could be arrayed along a continuum—from those whose drinking was relatively normal and only occasionally resulted in drunk driving to those whose drinking was very heavy, at least partly out of control, and who were frequently guilty of driving at high blood alcohol levels.

Analysis of the backgrounds of those in crashes and those coming before the courts indicated that about one-third of these drivers could be classified as "social drinkers" and two-thirds as "problem drinkers." It was assumed that it would be difficult to deter these problem drinkers through mass media appeals or threat of enforcement. Rather, they would require long term treatment that could only begin after their apprehension and appearance in court, where they could be referred to treatment as an alternative to other penalties. Meanwhile, social drinkers able to control and modify their drinking might be deterred by the increased arrest activity required to bring the problem drinkers into court treatment programs. Thus, the problem to which the ASAP program was directed was

two-fold; deterrence of social drinkers, and identification and referral of problem drinkers <sup>6</sup>.

Because the role of problem drinkers was a new element in the drinking driving picture, it frequently received the lion's share of the attention. The result was that the ASAP program was seen as entirely directed at problem drinkers, and the more traditional deterrence efforts were overlooked. This was unfortunate because many of those communities attempting to implement ASAP-like programs missed the importance of overall system improvement, including the deterrence of social drinkers, and concentrated all of their efforts on court referral programs for problem drinkers.

- *Enforcement.* Levels of enforcement nationwide were far too low to match the problem. On the average, each uniformed police officer made two arrests for DWI per year. It was hard to get arrested for DWI: studies showed that, for every arrest, some 2,000 incidents of drinking driving went undetected. Police traditionally looked for a "drunken automobile" rather than impaired driving, with the result that too high a proportion of arrests occurred after an accident. Psychomotor tests used to detect impairment missed approximately half of those driving at illegal BAC (Blood Alcohol Content) levels, and both processing and proving a DWI case were cumbersome and time consuming.

The result was that many drinking drivers were taken home or charged with a simpler offense such as reckless driving. By 1970, the F.B.I. Crime Report was showing some 500,000 to one million DWI arrests per year nationwide, but this did not nearly match the number of offenders. While special local enforcement campaigns ruffled the surface of the waters, nationwide the enforcement component of the system was clearly engaged only in a holding operation. Its deterrent effects were as unknown as its dividends in accident prevention.

- *Prosecution.* Prosecution of DWI cases was in a similarly poor state. DWI is a misdemeanor that defendants like to contest if they have the money. Low conviction rates showed that they were likely to win the contest. Especially before the introduction of breath-test instruments to measure Blood Alcohol Content (BAC), the officer's testimony was the only evidence presented. It had to reflect very drunken, dangerous behavior to convince judges and juries, who did not really believe DWI to be a serious offense. Even after the introduction of breath test equipment, trials were often a contest between the credibility of the instruments and the personal beliefs of the adjudicators.

As late as 1970, typical average BACs for both arrest and convictions were in the region of .20 percent (twice the illegal level), meaning that only the very seriously impaired tended to be convicted. Trials were long and

expensive, clogging already crowded court calendars with small likelihood of successful prosecution. The result was the common practice of informal plea bargaining as prosecutors solved court calendar problems by taking pleas to lesser offenses. A person with a BAC lower than .15 percent was unlikely to be convicted of DWI unless he pled guilty. All training for prosecutors was on-the-job, even though the area had become highly technical. The result was that, in trials, the better prepared defense attorneys had the upper hand.

- *Judiciary.* Few courts liked to handle DWI cases, even though they were the most "important" misdemeanor that many lower courts handled, and even though in most lower courts they dominated the calendar in terms of both numbers and time. Trials resulted too often in acquittals, and they were costly because defense attorneys could prolong them almost at will. There were "too many" DWI cases: they were complex to schedule because they required two testifying officers and perhaps a chemical test expert paid by the State. Continuances were given freely, even for such matters as ensuring that the defense attorney had received his fee. Dismissals for technical reasons (e.g., failure to appear by the arresting officers) were common.

Delays of up to two years before disposition were routine. Juries were believed to be highly sympathetic to drinking drivers. Neither judges or juries liked the sanctions mandated by law, which they regarded as both harsh and ineffective. The result was both low conviction rates and soft sentences. In most States, there was also a continuing battle between the courts and the driver licensing agencies, since both records and record systems were inadequate. In some jurisdictions, the offenders seemed to "run" the court system. Having tried hard to be arrested, a person had to ensure his own conviction.

- *Presentence/Probation.* Almost all the nation's lower courts were understaffed, and a nationwide survey showed in 1970 that there was a special scarcity in the area of presentence investigations and probation personnel. Few courts had probation officers. (Most courts in rural areas lacked even clerks.) The use of presentence investigation and even nominal probation in misdemeanor cases was unusual. Most communities did not consider their lower courts worth the cost of extra personnel, and the lingering reputation of traffic courts as "Justice of the Peace" courts did not encourage legislatures to increase their authority. The special techniques now used for DWI cases had not been invented, and there was no research to show their usefulness.

- *Sanctions.* Frustration concerning the usual penalties for DWI was widespread in 1970, though legislators had responded to public opinion by laying down fairly strong penalties, no court used them often. Sentencing with minimal or near minimal sanctions had become standard. Courts routinely avoided imposing sanctions they regarded

as too harsh. Repeat offenders tended to be treated more severely, but courts were often reluctant or unable to identify persons as repeat offenders. Jail was scarcely ever used with first offenders, and jail terms were short. Fines varied from \$25 to \$1,000, according to the jurisdiction, but the average was low. Action against the license was common but unpredictable, sometimes exercised by the judge, other times by the driver licensing authority, sometimes by both in conflict with each other. Techniques for avoiding the imposition of various sanctions were widespread among both judges and prosecutors. While a few pioneer jurisdictions operated unevaluated "DWI Schools," and while some progressive individual judges mandated alcoholism treatment for extreme cases, neither education nor rehabilitation were accepted as alternative sanctions.

- *Legislation.* Most State legislators were frustrated by the apparent ineffectiveness of the drunk driving control system, while at the same time being uneasy about strengthening the system because they questioned whether the public viewed the problem as serious enough to warrant more stringent measures. When the drunk driving problem was brought to their attention, there was a tendency to call for more severe penalties. The courts were also frequently singled out for criticism as being too soft, letting too many drunk drivers off. To remedy this problem, bills would be introduced to limit the discretion of the judge in sentencing offenders. Both of these approaches, however, tended to be ineffective or counterproductive because they resulted in clogging the courts further with increased backlogs of cases resulting from the defendants' fighting harder to avoid conviction, or there would be an increased use of plea bargaining to avoid any prosecution. Despite these difficulties, considerable progress was made in enforcement legislation by the provision for chemical test through implied consent laws and specifications for the blood alcohol levels that defined drunkenness (BAC = 0.10 percent).

- *Education/Rehabilitation.* The Nation's few DWI Schools were all lecture-oriented. Some courts had followed the model developed by Phoenix earlier in the 1960's and widely publicized by the American Automobile Association, but this was a pioneer project as yet unevaluated. Alcoholism treatment professionals knew almost nothing about drinking drivers. They were accustomed to (a) voluntary self-referrals, and (b) persons further along the spectrum of problem drinking than most drinking drivers. The result was that the rehabilitation system had only the most accidental of connections with the courts. No special treatment modalities had been developed, and systems for receiving and monitoring referrals had not been invented. Even the Federal emphasis on alcoholism was very new, represented by the creation of the National Institute on Alcohol Abuse and Alcoholism in 1971.

- *Record Systems.* Traffic record systems had im-

proved steadily since the 1950's, computerization had begun, and scattered jurisdictions were even providing judges with instant display of the driver record, but on the whole the state of traffic records was still poor in 1970. Manual storage and retrieval were characteristic, as were large gaps and inconsistencies between court records and driver licensing agency records. Within the criminal justice system, there were very few cases where a smooth flow of information had been developed from police and prosecution to the judiciary and court staff, with the result that information was often collected either several times or not at all. Decisions made on the basis of different information were common. There was no contact with the rehabilitation records, and presentence information collection rarely took place.

- *System Management.* The separate components of the drinking driver control system had their own objectives and operations. If cooperation took place, it was because of an individual's initiative. No one was in charge, and complaints by one component about another were characteristic. Highway safety interests were outside the system. Their influence depended on good will, and nowhere had they convinced all components to work for the same goal, to share the same records system, or to cease fighting for autonomy. Evaluation of performance was impossible, with the result that no agency could manage itself according to the needs of the other components or the community except on an ad hoc basis.

Finally, there was no consistency nationwide between the various criminal justice agencies. ASAP began even before the American Bar Association Standards for Criminal Justice had been disseminated, and though the desire for court "reform" was strong by 1970, real change was only just beginning.

Therefore, though ASAP was officially a nationwide program, it in fact consisted of 35 State or local projects held together by common goals and data requirements, and by their similar contracts with the U.S. Department of Transportation. Conditions in the 35 sites varied so widely that no single detailed plan could possibly fit all of them. And, within each jurisdiction, the various components of the system had to be fitted together differently, according to the ways chosen by the local project. Thus the "systems approach" advocated by ASAP meant, not a scientific ideal, but rather any manner in which the local agencies could be brought to share common goals.

This is why the goals of ASAP should be seen as ambitious. The objective was to develop and evaluate local systems within three years. The principal goals were to reduce alcohol-related deaths and accidents significantly, to demonstrate the effectiveness of a systems approach that had not been tested, and to have a catalytic effect on other jurisdictions. In each of the 35 sites, the local system had to be developed to the point where it could be evaluated as an adequately exemplary project. It

was to demonstrate success even though it dealt with a highly recalcitrant population, and even though half of its three years of direct Federal funds would be spent bringing it into operating order. And few of the people concerned with the program at either the local or the national level had prior experience in the area. The demand on their energies and expertise was enormous.

## APPROACH

### *Drinking Patterns in Relation to Alcohol-Related Crashes.*

The basic drinking pattern of a driver is significant in crash involvement. Alcoholics or problem drinkers are believed to be greatly overrepresented among the crash population, not only because they reach higher BAC, but also because they are on the road more frequently at these high BACs. Evidence for the role of alcoholism and problem drinking in the production of highway crashes is based on data from three sources: (1) the relatively high BACs in crash-involved drivers and the relative infrequency with which such BACs are found in drivers not involved in crashes; (2) studies of the driving histories of arrested drinking drivers and of drivers involved in alcohol-related crashes, which show a high frequency of previous involvement in alcohol-related traffic and criminal arrests; and (3) studies of the driving records of diagnosed alcoholics.

Figure 2-1 provides an estimate of the drinking patterns of American males, based on the studies summarized in the same report on alcohol and health. These studies included 2,746 persons, and are believed to give a reasonably good estimate of the drinking habits of Americans. Presented in this figure are the results for men only, since roadside surveys indicate that from 80 percent to 90 percent of drinking drivers are men. This is not unexpected, of course, since men do most of the nighttime recreational driving when most of the drinking occurs.

The responses on the frequency and amount of drinking were divided into five categories described in Figure 1-1. The lowest four categories indicate a drinking level which is not likely to bring the individual to a BAC at or above the common legal limit in the United States of 0.10 percent.

As indicated, moderate drinking is defined as "drink at least once a month, typically several times, but usually with no more than three or four drinks per occasion." It requires at least six one-ounce drinks to bring a 160 pound man to 0.10 percent BAC when he is drinking after eating. It is unlikely that three or four drinks, particularly when consumed over a period of time or after eating, will bring a male to 0.10 percent BAC. Thus, it appears that this large group of "light and moderate" drinkers, representing 46 percent of males, and the lower categories of "infrequent" drinkers and "abstainers" are unlikely to be candidates for Driving Under the Influence (DUI) arrest.

Since inexperienced drinkers, particularly young people and the elderly, can be impaired by BACs below 0.10 percent, it is possible that, on some occasions, these light and moderate drinkers do contribute to alcohol-related crashes. However, their contribution is small in relation to the heavy drinkers, since approximately half of the fatally injured drivers have BACs above 0.10 percent. Few drivers are currently arrested for DUI at BACs less than 0.10 percent.

Most of those subject to arrest under current laws fall within the "heavy drinker" category, defined as "drink nearly every day with five or more per occasion at least once in a while, or about once weekly with usually five or more per occasion."

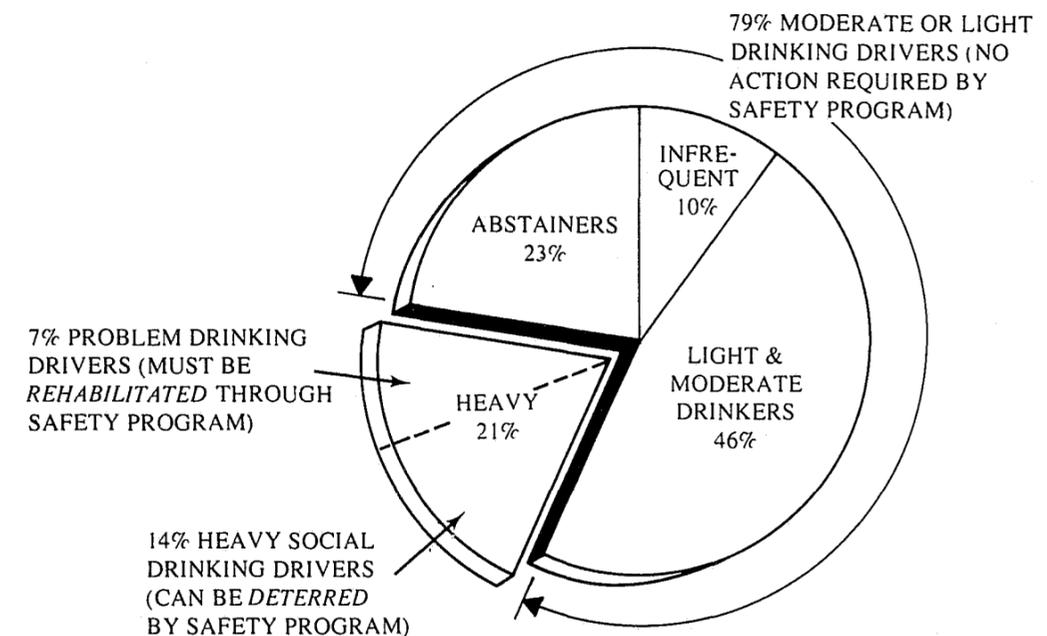
These are the individuals who are regularly drinking sufficient amounts to produce a BAC above the presumptive limit. Since there is some tendency for individuals polled to understate their drinking, it is probable that the number of heavy drinking males may be somewhat greater than 21 percent. On the other hand, since 10 percent to 20 percent of the nighttime drivers are women, and only 5 percent of women are heavy drinkers, the overall numbers of heavy drinking drivers must be close to that shown in Figure 2-1.

Thus, the basic problem concerning the ASAPs is limited to approximately one in four drivers. This group of heavy drinkers can be roughly divided into two units. At the high end of the heavy drinking continuum are those individuals classified as "problem drinkers" or alcoholics. These individuals have lost control, at least in part, of their drinking. This loss of control results in problems for them on the job, in their marriages, and (for that portion who drive regularly after drinking) with the police. A somewhat larger portion of these heavy drinkers have their drinking behavior under control and can be classified as social drinkers. While they consume large quantities of alcohol and do reach illegal BACs, they do so with less frequency than problem drinkers.

In summary, we can recognize three drinking categories among drivers. The largest group, amounting to three out of four, are those who either do not drink at all or drink such moderate amounts of alcohol that they are rarely, if ever, on the road at illegal BACs. A second category, amounting to around 15 percent of all drivers, is made up of heavy social drinkers who, at least occasionally, are on the road at illegal BACs. Finally, there is a smaller group of problem drinkers, amounting to less than 10 percent of all drivers, who are frequently on the road at high BACs.

The alcohol safety countermeasures program takes into account these differences in drinking practices by distinguishing between the social drinker and the problem drinker in the implementation of countermeasures. It is to be expected that the social drinker can alter his drinking behavior because (1) the alteration required is minor

Figure 2-1  
**DRINKING PATTERNS OF AMERICAN MALES**



\*Degree of drinking was classified according to a rather complex combination of the quantity of alcohol consumed per occasion and the frequency of drinking.

- Heavy drinking. Drink nearly every day with five or more per occasion at least once in a while, or about once weekly with usually five or more per occasion.
- Moderate drinking. Drink at least once a month, typically several times, but usually with no more than three or four drinks per occasion.
- Light Drinking. Drink at least once a month, but typically only one or two drinks on a single occasion.
- Infrequent Drinking. Drink at least once a year, but less than once a month.
- Abstainers. Drink less than once a year or not at all.

\*Alcohol & Health, Sec. HEW, Dec. 1971

relative to his standard social practice, and (2) his drinking behavior is still under his control.

In contrast, the problem drinker has developed a pattern of excessive drinking that may be partially outside his control. In this case, alcohol has become a significant tool that he used in coping with his environment. Any change in his drinking and driving behavior must have more significance than to the social drinker. Therefore, such a change will be more difficult to achieve.

Aside from the difficulties of achieving any major change in a person's normal behavior, there may also be a growing pattern of physiological as well as psychological addiction placing the problem drinker's control of his drinking behavior beyond his capability. Because of greater interference with the normal day-to-day behavioral patterns and because the problem drinker has fewer personal resources with which to change his behavior, a program designed to control him and reduce his frequency of excessive drinking followed by driving must be different than that directed toward the social drinker.

The distinction among drivers between problem drinkers and social drinkers should not be oversimplified. Undoubtedly, drinking patterns vary on a continuum from complete abstinence at one end to classical, clinical alcoholism at the other. There is no precise borderline between the terms "alcoholism," "problem drinking," and "social drinking." However, the problem drinkers whose drinking behavior must undergo a major change, and who have little or no control over their drinking, can be contrasted with social drinkers, who are required to make only a relatively minor change in their behavior and can be expected to do so, if motivated by a safety campaign.

Evidence from highway safety studies suggests that individuals with a drinking problem are involved in two-thirds of the fatal crashes in which alcohol plays a role. Approximately half of all fatal crashes involved alcohol, and of those crashes one-third result from excessive drinking by social drinkers. This formulation relies heavily upon data such as those reported in the DOT 1968 Alcohol and Highway Safety Report on the backgrounds of crash-involved drivers.

Considerable controversy has arisen over whether the proportion of fatalities caused by problem drinkers is as great as two-thirds. In part, this results from different definitions of the term "problem drinking." A somewhat better statement might be that drivers involved in fatal crashes fall into three categories—one-third are problem drinkers, one-third are social drinkers, and one-third are somewhere in between. This description is an improvement because it suggests a continuous distribution rather than a dichotomization of the drinking behavior of drivers.

### *Description of the ASAP System*

The ASAP undertakes a systematic and multifaceted approach to the control of each of the major types of drinking drivers. It controls the problem drinker by surrounding him with a set of activities directed at apprehending him on the road, classifying him, and gaining control over his behavior through the court process. He can then be referred to a treatment program, if necessary, and maintained under control until such a time as his drinking driving problem is relieved. With the social drinker, on the other hand, the focus is primarily upon deterrence rather than control. It is expected that, once the social drinker has been exposed to a well-publicized high enforcement level, he will avoid being brought into the control system.

The specific countermeasures that make up the ASAP approach are not new; most have been tried (though rarely evaluated) before. Usually, they have been implemented as single shot efforts rather than as an integrated program. One of the more novel features of the ASAP effort is its provision for support and integration of all highway safety and alcoholism treatment activities into a single, organized effort directed at drunk driving.

Most previous safety efforts have been limited entirely to one agency. Thus, for example, if the enforcement agency produces an increased number of arrests, the courts may be overloaded. This results in major delays in prosecution. When such a backlog develops, pressure mounts upon the enforcement agencies to reduce their activity. If it becomes clear to enforcement officers that the individuals they are apprehending for DUI are being convicted of lesser offenses, discouragement sets in and the arrest rate for DUI falls. Thus, in order to make law enforcement effective, steps must be taken to ensure that the judicial system can accommodate the increased enforcement activity.

The same is true of other safety program activities. If the public is to become aware of increased enforcement activity and deterred from driving after drinking, then such activity must be well-publicized. If such a public education program does not occur, the public may be unaware of a significant increase in arrests. The same lack of effect can be produced in an opposite manner. All too many safety programs are limited to mass media messages without any increase in the enforcement level or any significant changes in the laws or in court procedures. When this is the case little impact results.

### *Enforcement Countermeasures*

Alcohol Safety Action Projects attempt to increase the effectiveness of enforcement efforts by providing special training and by modernizing enforcement procedures through additional equipment, such as portable breath testers and video taping systems. At the level of the

individual enforcement officer there should be no distinction between a problem drinker and a social drinker, but rather only the issue of whether a drinking driving offense has been committed. However, it is supportive to the individual officer's morale if he can view his efforts as directed at helping the individual apprehended. An understanding that drinking drivers frequently have a drinking problem and need assistance helps the officer see his activity as useful to the offender as well as to society as a whole.

### *Court Countermeasures*

The second element in the ASAP system is the courts. To be effective in dealing with the problem drinker, the courts must successfully carry out five steps. First, they must ensure conviction of the problem drinker or some other successful outcome that results in the problem drinker entering a treatment program. Once the drinking driver has been brought under the authority of the court, the next requirement is to identify those who are problem drinkers so that specialized sanctions, including treatment and retraining programs appropriate to their needs, can be implemented. This normally is carried out by court probation personnel through the means of presentence investigation. In some cases, the identification process may be carried out in conjunction with the retraining and treatment process rather than by the court.

The identified problem drinker must be referred to an appropriate treatment activity. This requires that the court be aware of the facilities within the community for treatment of problem drinkers. A procedure must be developed whereby a court may send to these treatment agencies offenders identified as problem drinkers. This activity is often assisted by special referral agencies developed by the treatment community to work with the courts.

Once a referral agency is indicated for a problem drinker, it is necessary to motivate him to accept the treatment program offered. This can normally be achieved if there is flexibility in sentencing available to the court. Punitive sanctions, while not particularly useful in rehabilitating the problem drinker, are useful as motivators to bring him into treatment. Most problem drinkers enter treatment as a result of outside pressures. The wife threatens to leave her husband unless he does something about his drinking, the supervisor threatens to fire the employee unless he accepts help from the company medical department, etc. The court's use of probation or some other modification of the normal sanctions is analogous to this type of external motivational pressure.

Once referred and in treatment, the progress of the problem drinker must be followed by the court to ensure that he continues to attend the treatment session and does

not drop out of the program. An effective probation system must be established to ensure that records of attendance at treatment centers are collected and filed, and that individuals who drop out of the treatment program are returned to the court for reimposition of the sentence.

### *Treatment Countermeasures*

The third aspect of the ASAP system is the treatment program. An effective program depends upon three factors. First is the establishment of an effective liaison system between the treatment activities and the court. The second involves the development of appropriate programs for the problem drinker apprehended on the road. The problem drinker is younger than the usual entrant into an alcohol treatment center. Normally, DUI offenders are still functioning effectively within the community. They hold jobs, and their families are intact. Therefore, they have considerable resources within themselves not available to most of the alcoholics normally treated by these agencies.

Establishment of evaluation methods to measure impact on the traffic safety problem is the third factor in the treatment program. It is essential to know whether the treatment program is reducing the probability that these offenders will become involved in a crash. While significant progress in promoting sobriety is important, the ultimate success of this activity as a highway safety program will depend upon its capability to reduce future DUI offenses and crashes by those who enter the treatment activity.

### *Public Information and Education Countermeasures*

The fourth area of the ASAP program involves public information. These activities do not deal with the problem drinker. It is not expected that an individual with a drinking problem can be significantly influenced through mass media communications. Rather, the public information program is directed at the public in general and particularly at community leaders, with the aim of getting support for the overall ASAP control system and the agencies involved in the program.

### *Detering the Social Drinker*

In the initial stages of the implementation of the ASAP concept, a significant increase in the apprehension of social drinkers will occur. However, as the public becomes fully informed about the increased enforcement effort and comes to accept the validity of the system, the social drinker should be deterred from driving after heavy alcohol consumption. As a result, he will avoid being brought into the ASAP control system. Each of the four elements described in the ASAP system comes into play in

detering the social drinker. However, the most important elements in this deterrence process are the enforcement activity and the supporting public information program.

The enforcement activity is one of the central elements in deterring the social drinker since it must create the fear of apprehension. Current levels of DUI enforcement in the United States are quite low, averaging about five arrests per thousand licensed drivers per year. In order to create a realistic level of enforcement as a basis for deterring the social drinker, it will be necessary to increase this arrest-rate significantly. The current estimate of the probability of apprehension of an individual committing a drinking driving offense is in the order of one in a thousand to one in two thousand.

A major element in making the increased enforcement activity effective must be a rapid, low cost flow of the apprehended drivers through the courts. Unless there is a high proportion of "satisfactory" outcomes of court prosecutions, an increased arrest-rate cannot be maintained. This puts an emphasis upon finding streamlined procedures that permit rapid processing of first offenders. Aside from ensuring speedy justice resulting in a sufficient penalty to motivate the individual social drinker to avoid repeating the offense, it must also ensure that there is an opportunity for the identification of problem drinkers among the arrested drivers.

For the social drinker there need be no treatment program. On the other hand, an alcohol safety school may be useful as part of the total package of sanctions. It provides the safety community with an opportunity to educate the social drinker regarding BACs, the symptoms of problem drinking, and the dangers of drunk driving. Also, through this process, some individuals who are otherwise identified as social drinkers may be self-identified as problem drinkers and motivated to seek treatment.

The public information portion of the ASAP system is an essential factor in deterring the social drinker. It must dramatize the increased enforcement effort. Even if current arrest-rates are doubled or tripled, most drinking drivers will never come into contact with a police officer. Therefore, it is necessary for the public education campaign to help make the community aware of the increased activity by the police. When the two work together, as in the case of the British Road Safety Act of 1967, it is possible to create an impact on the social drinker far beyond what could be created by increased enforcement activity alone.

Operationally, the projects' objectives were different from those of the Program. They had to:

1. develop the local system to the point where it was arresting and processing large numbers of drinking drivers at minimal cost and with maximum speed and efficiency;

2. develop sanctioning packages, including education and treatment programs acceptable to the courts and appropriate to the offenders;

3. improve record systems to the point where system actions could be measured and drinking drivers accurately tracked;

4. measure the effectiveness of a whole group of countermeasures, and each countermeasure individually, even while experimentation and development took place.

It would have been easier: (1) not to add education and rehabilitation to local systems, but simply to test the effect of traditional punitive measures; (2) to run the projects for long enough to thoroughly test their effects on people who must spend almost as much time giving up an addiction to alcohol as they spend acquiring it; and (3) to apply massive resources to a very few sites, rather than to spread them across the country. But the Program held to its major objective: to test all components of a community system, as they exist in the real world situation in a variety of communities, with the bare minimum of funds necessary for operation and evaluation.

The projects came to emphasize the following counter-measure areas:

- *Enforcement.* Arrests are the basis for the entire traditional system, and their number had to be brought more in line with the number of drinking drivers known to be on the roads. Accordingly, some 31 percent of the Program's budget went to enforcement. Special patrols operated at the times and places where most drinking driving occurred, as identified by scientific analysis. Extensive training was given to local police officers in the detection, apprehension, and processing of offenders. Methods to speed up the processing of arrested persons were developed. Record systems were analyzed and improved. Most projects hired a staff coordinator for enforcement, since the countermeasure was large and complex.

- *Presentence/Probation.* Some 15 percent of Program funds went to the area of adjudication and sentencing. There was a strong need to help the courts process the large and sudden increase in the number of arrests. There was a greater need to create (usually from scratch) the capability to discriminate between problem drinkers and nonproblem drinkers by means of presentence investigation, and to provide courts with the personnel and records for monitoring offenders under "probation." Funds went for support staff, and occasionally for extra judges or prosecutors. Special seminars were conducted for judges and prosecutors. Forms and tests for use in the presentence investigation were created, along with records systems. Presentence and probation staff were employed and trained. Project staff spent great efforts helping the courts

develop whole new procedures for the large volume of cases and the series of new functions. All these efforts were completely novel in terms of both local and national experience, and the projects had to create the system without benefit of useful prior knowledge.

- *Education/Rehabilitation.* Very few communities began with appropriate DWI Schools. No community had enough treatment programs, and no existing programs were oriented specifically to drinking drivers. With only some 9 percent of Program funds allocated to this countermeasure, the projects had to engage in extensive community development, paying particular attention to costs and funding. The newly created National Institute on Alcohol Abuse and Alcoholism (NIAAA) was of great help, funding appropriate treatment programs collaterally. (Impoundment of NIAAA funds unfortunately led to a delay in the establishment of many of these programs, with the result that some projects operated for as long as two years without the planned treatment component. In some cases, this clearly invalidated their potential for measuring the effectiveness of appropriate treatment for problem drinkers.)

There existed no body of theory and no experience concerning the right "treatment" for problem drinking drivers, and there was widespread belief that persons referred involuntarily could not be treated successfully. The only well-known DWI School model was that of Phoenix, publicized nationally by the American Automobile Association but unfortunately shown (during the early ASAP years) to be ineffective with the population now referred to it. Thus, all project efforts in this area were completely innovative. All education and treatment programs were local in nature, and only very small national level efforts went into creating model therapeutic or educational modalities.

Because ASAP has been known inaccurately as a Program emphasizing education and rehabilitation, it is important to acknowledge that this countermeasure was low in the national funding priority. Evaluated programs were almost all exclusively local insofar as curriculum, operations, clientele, and staff were concerned. Each project developed its own approach without the help of a proven national model curriculum and solely on the basis of what local personnel knew. Many projects used curricula that had elsewhere been evaluated as ineffective, and many sent persons identified as problem drinkers to modalities generally known to be ineffective, because there was no proper alternative.

Because of the developmental process, and because of the complete local autonomy, it is very hard to say that the Program "evaluated the effectiveness" of either education or rehabilitation with drinking drivers in any abstract, ideal sense. It evaluated only the effectiveness of a series of local systems and modalities where inherent weaknesses were often already clear. Fortunately, scattered

individual sites were able to use evaluation results to change education and rehabilitation programs and to provide adequate "sample" evaluations using control groups and adequate statistical methods.

- *Public Information and Education.* Historically, public information programs in alcohol safety had been based on the temperance theme, "If you drink, don't drive." This appeal was ineffective because it set an impossible standard, raised old moral controversies, and was misleading in suggesting that any amount of drinking was associated with significant crash risk. It made a large portion, if not a majority of all motorists, the target of "drinking driving" programs. With the establishment of the DOT, a review of relevant research was conducted. This demonstrated that the majority of the drivers involved in serious crashes and drivers arrested for drunk driving were problem drinkers. Further, the existing State enforcement and judicial systems were found to be functioning inefficiently. As a result of these findings, a new initiative was undertaken to support the Alcohol Safety Action Program.

The first phase of the ASAP PI&E effort presented a radical departure from the mass media programs of the past. The NHTSA program was not directed at changing the behavior of the drinking driver. It was argued, in fact, that for the portion of the drinking driver population having a drinking problem mass media would be ineffective. Their drinking was out of control and could be modified only through treatment. Therefore, the first PI&E efforts were directed at making the public, opinion leaders, and professionals within the safety community aware of the problem drinkers issue and of the need for a systems approach to the problem. This early campaign was specifically designed to support the professional groups (police, judges, prosecutors, educators) within the community in integrating an systematizing the existing agencies into an effective control system. The PI&E campaigns were designed to obtain both organizational cooperation and funding support.

It was only later, once the projects had been underway for some time, that the target of these campaigns shifted back to an effort to directly influence driving behavior. But even in this second phase, there was a departure from tradition. The target was not the drinker himself (since problem drinkers would be difficult to influence in any case) but rather on those friends and associates surrounding the drinking driver who might be able to influence his driving following heavy drinking.

In addition to this two-phased campaign, which was led at the national level, the projects began to develop their own special target group campaigns concentrating on high risk groups, identified by highly professional methodology. Support for these local efforts came in the form of special technical assistance from NHTSA and NIAAA. This support emphasized planning and scientific development activities. The level of activity in this counter-

measure was very high, and the variety great. For the first time local efforts were accompanied by extensive and varied evaluation of their effectiveness.

• *Evaluation.* Some 15 percent of the Program budget went into evaluation, a crucial innovation. Highway Safety has a long history of inadequate or late evaluation. Erroneous claims for effectiveness have too often led to the continuation of poor countermeasures at considerable local cost. The Program was determined to ensure that this did not happen, and so extensive evaluation took place at both the local and the national level. The evaluation required (1) a management information system for each project; (2) forwarding of statistical data to NHTSA for overall Program evaluation; and (3) evaluation of each countermeasure within each project impact on alcohol-related crashes. Special efforts went into individual countermeasures—e.g., the use of the prearrest breath testers—and into more general subjects, e.g., system costs. Each project produced annual evaluation reports designed and conducted according to national guidelines by local contractors, and all project statistics were regularly analyzed at the national level to produce Program results, though in this area there were major problems with quality and consistency between sites.

• *Management.* Management accounted for some 19 percent of the Program budget. Without a local management unit, none of the projects could have succeeded, and this could, therefore, be called the most cost-effective single countermeasure. The task of project management was to design and monitor the local system, bolster some components, educate where necessary, solve problems and create regular liaison to coordinate countermeasures and measure their activity and effectiveness. Much of the projects' activities also involved agencies not receiving project funds. All these functions were new. Only a handful of communities contained local traffic safety units whose task was to coordinate the various countermeasures components, with the result that projects found themselves—especially in relation to the courts—providing a community function previously unknown.

It should be clear from this description that the Alcohol Safety Action Program was a series of local projects given consistency only by a single concept and by NHTSA guidelines. It was not a monolithic "national program" in the sense of uniformity but a nationwide experimental and demonstration program that stands or falls according to the real world dynamics of local community systems. In this regard, three elements of the Program's approach should receive emphasis.

First, local variations make overall evaluation success or failure very difficult. Projects developed in different directions with different sequencing, some quickly performing with great efficiency, others stalled for long periods because of factors beyond their control. Still

others pushed into directions that go counter to the needs of a Program level evaluation. Especially in the area of data systems, there was a great variation between sites, which a national level evaluation had to ignore. There was the danger of confusing good results with bad, of mixing all colors until they turned one uniform grey.

Second, because of the variety of components involved in various countermeasures, it is difficult to discuss the achievement of "objectives." NHTSA continued throughout to concentrate on the highway safety objective—have accidents and deaths due to alcohol impairment decreased? Many of the components, however, regard this as a remote objective. Advances made in enforcement levels, the efficiency of court procedures, the cooperativeness of clients, or with recidivists, determine a component's evaluation of the Program's success. Since these components make up the nation's drinking driver control system, their criteria for success must be given approximately equal importance to the ultimate highway safety goal of NHTSA and the projects. It is important to examine each project individually to determine "success" according to the efficiency and effectiveness of its individual countermeasure areas, as well as its highway safety results.

Third, the Program was at least as developmental as it was demonstration. The projects were as new to the profession of highway safety as they were to all the local components. There was no reservoir of experienced staff, except within police departments, and existing staff with related experience had to be retrained. Most projects had to create whole new countermeasures by working with whatever was available at the local level, especially in the area of education and rehabilitation. The developmental effort took at least two years, with the result that the "demonstration" elements deal with, at most, the effects of two years' operations at a reasonably efficient level.

## RESULTS

Since the research leading up to the establishment of the ASAPs indicated that alcohol plays a large role in fatal crashes, and that the community institutions established to deal with this problem were not operating with full effectiveness, it appeared reasonable to hope for a reduction in crashes. On the other hand, demonstrating the effectiveness of community safety programs through scientific research techniques has proven to be very difficult. Programs can fail to demonstrate an impact for at least four reasons: (1) they are faulty in concept and (2) they are not effectively implemented, (3) outside events overwhelm the effects of the program or (4) the evaluation design and methodology are faulty. This latter factor, faulty methodology, cuts both ways. It can lead to claims for the effectiveness of inadequate programs (Type I error) as well as producing a failure to detect the impact of effective programs (Type II error).

The primary concern in the present instance is to determine whether, in the light of the results reported, the basic ASAP program concept has value. This concept relies on organizing the traditional community enforcement, judicial, public information and treatment agencies to deal with the drinking driver in a systematic fashion. This control "system" is to impact the drinking driving problem in two ways, (1) by raising the enforcement level and public awareness of that enforcement effort in order to deter the social drinker and (2) by rehabilitating more of the problem drinkers through increased apprehension and referral to treatment.

This second source of impact, the rehabilitation of problem drinkers, could contribute little to the reduction produced by the ASAP on a community's total nighttime fatal crashes within the relatively short operational period (3 years) of these projects. A period up to several months could have intervened between arrest and conviction. The treatment program typically ran from 3 to 12 months. By the time enforcement efforts had produced a significant increase in arrests, and these additional cases had been processed through the courts, referred to treatment agencies and the rehabilitation programs completed, the project was at least halfway through its operational phase. Under these conditions it was unlikely that sufficient numbers of problem drinkers could have been processed by the system to significantly affect the overall alcohol-related crash rate.

## Measures

*Criterion Data:* The selection of an appropriate criterion measure was a major evaluation problem. It is clear that the best (most persuasive) criterion measure is the number of crashes involving at fault drivers who have a high BAC at the time of the crash. Unfortunately, this measure was not available, since measurements of BAC are made on only a portion of drivers involved in fatal accidents, and almost never on drivers involved in either injury or property-damage-only accidents. While some communities provide for regular blood tests by coroners on fatally injured drivers, surviving drivers are tested only if the investigating officer has sufficient evidence to warrant an arrest for drunk driving. Aside from the fact that a relatively small proportion of drivers in accidents are charged with drunk driving, this measure would be biased by the judgment of the police.

*Intermediate Measure:* Voluntary roadside surveys of the breath alcohol levels in a random sample of drivers were recommended as one of the evaluation techniques to be used by the ASAPs to augment the crash data and give validity to a measurement of project effect. Such surveys could be conducted only where the cooperation of the police and the permission of the city or county attorney could be obtained. For various reasons, only 27 of the 35 ASAP sites were able to carry out such surveys. It was

hoped that such surveys would provide an indication that the frequency of drinking and driving was reduced, and provide a link between the project activity measures, such as drunk driving arrests, convictions, etc., and a reduction in alcohol-related nighttime crashes, if any.

## Evaluation Design

The design used in the present study is outlined in Table 2-1. In this procedure the experimental series, nighttime fatal accidents in the ASAP community, was compared with two other series: daytime (8 a.m. to 8 p.m.) crashes in the same community, and nighttime crashes (8 p.m. to 8 a.m.) in a comparison community.

Daytime fatal crashes provide a comparison for controlling for factors other than the ASAP project that affect night fatal crashes. Examples of such factors might be safety improvements in vehicles and roadways, economic and weather conditions. It was the contrast between the changes in nighttime, as compared to daytime, crashes in Britain which Ross<sup>28</sup> relied on in his demonstration of the effectiveness of that country Road Safety Program. The use of a daytime accident comparison does not control for effects that might logically be expected to differentially affect nighttime crashes, such as an overall increase in alcohol consumption. To provide a meaningful comparison to control for such possibilities, a nighttime fatal crash series is required from another community that differs from the ASAP site only in the absence of a special alcohol safety program.

Since randomly selected control communities were not available, it was necessary to select communities on a matching basis. In this procedure, 11 comparison communities were selected based on two salient criteria: (1) similarity of ASAP sites in those features likely to affect the criterion measure (nighttime fatal crashes), and (2) the absence of the treatment to be evaluated (ASAP or any significant alcohol safety effort).

## Results from Analysis of Crashes

Of the 35 nighttime (8 p.m. to 8 a.m.) ASAP time series examined, 23 showed fatal crash reductions, of which 12 were significant at the  $P = .05$  level. In no case in which there was a significant reduction in the ASAP nighttime fatal crash series, was there also a significant change in the nighttime fatal crash series from the corresponding comparison site(s).

Of the 35 ASAP sites, 12 projects showed a statistically significant reduction in nighttime fatal crashes. While the majority of the projects did not show a significant reduction in nighttime fatal crashes, this proportion of significant reductions could not have been obtained purely by

TABLE 2-1  
**ASAP EVALUATION DESIGN**  
 Repeated for each of the 35 ASAPs

	Baseline Period 3 years	Operational Period 2½ to 5 years
Experimental Series ASAP "Alcohol-Related"	Nighttime (8 p.m. to 8 a.m.) Fatal Crashes at ASAP Site.	Nighttime (8 p.m. to 8 a.m.) Fatal Crashes at ASAP Site.
1st Comparison Series ASAP "Non-Alcohol-Related"	Daytime (8 a.m. to 8 p.m.) Fatal Crashes at ASAP Site.	Daytime (8 a.m. to 8 p.m.) Fatal Crashes at ASAP Site.
2nd Comparison Series "Alcohol-Related"*	Nighttime (8 p.m. to 8 a.m.) Fatal Crashes at Comparison Site(s).	Nighttime (8 p.m. to 8 a.m.) Fatal Crashes at Comparison Site(s).

\*For nine ASAPs two comparison sites were available.

chance, since if the ASAPs were normally distributed only .05 x 35, or between one and two, significant reductions would have been expected.

#### Roadside Survey Results

Twenty-seven ASAP sites conducted roadside breath test surveys. Eight projects were not able to conduct their first survey until after the start of operations; therefore, no baseline data was available for the present analysis. The remaining 19 sites conducted baseline surveys prior to the initiation of operations and from one to five annual operational surveys.

The 19 sites that conducted baseline surveys had a mean level of 52 drivers per thousand with a BAC  $\geq$  .10 percent prior to the start of operations, in contrast to 45 drivers per thousand during operations. This difference is statistically significant. When the 8 sites that did not conduct baseline surveys are added, a similar result is obtained. All 27 sites, as a group, showed a decline from 53 to 46 per thousand with BAC  $\geq$  .10 percent from their first survey to the later operational surveys.

Of the 19 sites that conducted baseline and operational roadside surveys, 8 were among the 12 sites that demonstrated a significant reduction in nighttime fatal crashes, while 11 were among the 23 sites that showed no change in nighttime fatal crashes. The 8 sites with nighttime fatal crash reductions demonstrated a significant reduction in high BAC (.10 percent) drivers. In contrast, the group of 11 sites with no significant reductions in night fatal crashes did not demonstrate a significant reduction in the proportion of high BAC drivers.

The reduction observed in both the fatal nighttime crash criterion and the immediate measure (high BAC drivers on the road) is most probably a result of the increased general deterrence to drunk driving. This increased deterrence probably affected those subject to modification through the increased enforcement threat—the social drinkers. While the criterion, nighttime fatal crashes, was not a sensitive measure for project sites that had few fatal crashes, or that demonstrated rapid population growth, it had the advantage of being an objective, recorded variable that was not likely to be invalidated by the presence of the special ASAP program. The positive results with this criterion are supported by the corresponding reductions in roadside survey results. Finally, a relationship between arrest level and the occurrence of a statistically significant reduction in nighttime fatal crashes was found to strengthen the conclusion that the ASAP effort produced these results.

#### THE PROGRAM IN PERSPECTIVE

Since the Program was a community action program requiring cooperation, it is important to see if from the perspective of the components of the system. To what extent did they see their own objectives realized as a result of the program?

• **Enforcement.** Scepticism was a frequent early reaction among police agencies. By the end of the projects, that scepticism had substantially vanished because the projects had achieved police objectives. This was not simply a matter of achieving higher arrest-rates, though the projects did show that this could be the result of comparatively minimal investments in training, equip-

ment, and departmental priorities. Police were more concerned about two other matters: (a) could high arrest-rates be maintained as a matter of routine? and (b) would the subsequent components of the system, especially the courts, respond meaningfully to increased arrests? In most projects both questions were answered affirmatively. An unexpected dividend was the degree to which officers responded favorably to the use of treatment as a sanction, reserving their disfavor of occasions where it became a substitute for punitive sanctions or even a conviction. The favorable police attitude may well vanish if (a) the courts dismiss cases or punish them too lightly, and (b) if education and treatment programs prove no more effective than the old system at changing driver behavior.

• **Prosecution.** Prosecutors began, very often, as opponents of the ASAP concept. Partly they saw it as too "soft" an approach that would reduce their conviction rates, but more often, opposition stemmed from the degree to which projects eliminated individual prosecutorial discretion, particularly informal plea bargaining. Prosecution departments are rarely oriented toward good management, but they like to handle cases efficiently. The projects, therefore, won the support of prosecutors by solving their scheduling problems, reducing the time spent per case, and eliminating incentives for the defendants to go to trial rather than plead guilty.

Prosecutors generally prefer the hard line approach towards sanctions, but they are likely to continue support for the ASAP concept as long as it solves their management problems and improves their efficiency. They are likely to cease supporting it where public and press opinion turns against the concept and accuses the prosecution of being too "soft." Several projects found that their adjudication procedures were better run by the prosecutors than by the judges, with the result that some projects continued on local funds are now under the permanent management of prosecution agencies. In only a handful of sites did the prosecutors remain opposed to or seriously hobble the Program.

• **Judiciary.** Though nervous lest they be accused of being soft on drinking drivers, judges became strong ASAP supporters. Many projects found that the judges were the key to successful operations, and they have been continued under the auspices of the courts after the end of special funds. Judges reacted favorably to three aspects of the projects: (1) the addition of education/rehabilitation to their arsenal of sanctions, some of them (unfortunately) to the point of accepting a referral uncritically or using it in place of traditional sanctions; (2) the extension of court authority by means of presentence investigation and probation; and (3) the greater efficiency in court management and procedures generated by the projects. Most projects report their judges (after some delay) as approving the ASAP approach to misdemeanor justice in general.

Since an extraordinarily high proportion of the lower courts' caseload is alcohol-related, the health legal model can be used for cases other than DWI, and in several States the DWI diagnosis and referral units are handling other misdemeanors and some felonies, as well as DWI cases. The two main units for judicial education—the National Judicial College and the American Academy of Judicial Education—have included the ASAP concept in their regular curricula, a sign that it is now firmly embedded in the practice of the nation's lower courts. ASAP was the first nationwide program to work systematically with the lower courts. (It has since been followed by Treatment Alternative to Street Crime, or TASC, a health legal program for drug cases sponsored by the U.S. Department of Justice and now taking alcohol-related cases as well.) In this way, ASAP has had a major and probably permanent impact on misdemeanor justice.

• **Presentence/Probation.** The Program has always had the support of the probation profession, even though it departs in very important ways from tradition. It marks the first use of routine presentence investigations and probation supervision with misdemeanor cases. As such, it has become a model for the profession, previously concerned almost exclusively with felony and juvenile probation. Because of the increased caseload, the profession had to develop shorter and less costly techniques than had been conventional standardized tests, group intake, classification by records only, routine referral tracks, nonreporting probation, monitoring by records, speedy response to violations of probation, etc. By means of these drastically new techniques, the projects' systems have been able to handle easily caseloads very much higher than the profession had expected. The project is, therefore, regarded as a major contribution to the field. In addition, many of the courts with which projects cooperated—particularly those in rural areas—have never had either a probation or a management capability, with the result that the projects substantially "upgraded" the resources and operations of those courts. No other Federal effort has been made in this area.

• **Alcoholism Profession.** Like the judges, the members of the alcoholism treatment profession, after initial scepticism, became strong project supporters. Many projects have survived the departure of special highway safety funds by relocating under the management of treatment programs. The major reason for the profession's favorable attitude is the projects' ability to provide large numbers of clients under court control. Two major difficulties confronting treatment personnel are avoided by court referral programs: initial attendance at a rehabilitation program, and continued attendance when the program begins to affect attitudes. Problem drinkers typically resist admitting they have a problem; they tend not to come voluntarily to programs, and they do not stay in them until these programs begin to induce change. The health legal approach, mandating attendance, gives the programs the opportunity to work with such clients. Further, most of the

clients in treatment programs are further along the path of alcoholism than are most drinking drivers and correspondingly are thought less likely to make rapid progress. The kind of client brought in as a result of a drinking driving arrest is theoretically susceptible to an earlier intervention.

Treatment programs tend to be more patient about "success" than is the criminal justice system. They understand the complex dynamics of recovery from alcohol dependency, are willing to accept recidivists, and do not expect immediate and complete abstinence. In conjunction with the projects, they used "intermediate measures" of recovery (reduced consumption, for example, or improvement in economic situation) instead of concentrating entirely on re-arrest figures, and by their own improvement scales the drinking driver projects reported success as great as or greater than any other kind of treatment program.

• *Community Government.* The elected and appointed community officials have approached the Program cautiously, and a surprising number have endorsed it by continuing projects with local funds. Their first motive has been to do something positive about alcohol abuse at the community level, and they see the projects as doing more than any other community-wide program. A project reaches a large number of people in all groups of society, and, as a highway safety project, it has its own justification in community judgment. Community managers also want economical programs, and after Federal funds had overcome original capitalization costs, communities found the cost of projects beneficial and comparatively inexpensive. The acceptance of the ASAP concept by State and local governments not anxious to spend local funds on either alcoholism or criminal justice must be regarded as one of the Program's major demonstrations of success.

• *Highway Safety.* The highway safety profession remains very cautious about the Program's concept because it did not demonstrate the dramatic, short term reductions in accidents that the profession demands. The Program did not produce as great savings as did the concurrent reduction of speed limits to 55 mph, along with the fuel shortage, and some segments of the profession believe that behavioral programs will never produce the dividends of programs designed to improve vehicles and highways. Elements of the profession not associated with the Federal or local programs did not understand the Program's complexity. They understood it as aimed only at testing "rehabilitation" with drinking drivers; they regarded it as another short term enforcement effort, with frills. How-

ever, other elements of the profession see that it represents another permanent area of highway safety, and several States have continued their projects voluntarily. (At least four foreign countries are experimenting with variations of the health legal concept as either an alternative or a supplement to their current countermeasures.)

The state of knowledge in the profession has made great strides. For the first time, highway safety experts have developed experience in a control system beyond the area of enforcement, accepting responsibility of a broader nature than ever before. The ultimate consequences of this expansion cannot be anticipated.

Of all the above interests associated with the Program, the highway safety interests seem the least supportive. Each component has clearly seen major improvements or opportunities for their own operations. They report that the projects are helping them fulfill their assigned tasks better. Some highway safety professionals are not satisfied with the degree to which the Program has achieved its ultimate objective. Results in terms of lives saved have not been substantial enough. However, highway safety interests at the State and local level are more enthusiastic. They have received a degree of positive feedback from communities and other agencies of government much greater than is usual in highway safety, and see themselves as performing an important function. Some States and communities also attribute reductions in their accident rates more directly to Program activities than NHTSA or the projects have been willing to claim.

NHTSA expects the cautious or mixed response from the highway safety profession to continue. The Program will never satisfy the profession's demands for quick, dramatic lifesaving results (as is demonstrated statistically elsewhere in this chapter). NHTSA regards the Program as developing and fostering a long term response to drinking drivers, improving the extant mechanisms, rather than doing something spectacularly new. Those within the highway safety profession who support the Program believe that the profession should be providing assistance to all the community mechanisms for controlling drinking drivers, and that there is no more likely method on the horizon for controlling DWI behavior. Drinking drivers, they believe, will always be with us and, therefore, a community system for responding to them must exist. They see ASAP results as positive even if marginal, and they believe the improvements in local systems to be cost effective at the community level.

### III. ASAP COSTS AND REVENUES

The ASAP costs and revenues cannot be clearly delineated because all the Program activities overlaid an existing base of operations. Since this program was designed to demonstrate what existing agencies could achieve if they were organized into a system for dealing with the drunk driver, the emphasis was placed on operating with the traditional community government entities rather than by creating new organizations. Each of these traditional agencies had sources of income of its own from clients, or from the city, county, or State. Each agency also carried on many activities not related to drunk driving. A definitive assignment of costs and revenues across these activities was generally not possible. Much of the expense allocation had to be based on estimates.

The Federal funds provide for under Section 403 of the Highway Safety Act (shown in Table 3-2) were closely accounted for, however, and do provide a broad picture of the relative levels of expenditure for the five major countermeasure areas—enforcement, judicial, rehabilitation, public information and education, and driver licensing. In addition, 37 percent of the total Federal funding was used in the management and evaluation effort of the projects.

Approximately \$27 million, or 31 percent of the total amount, were spent in enforcement. Funds were used to purchase vehicles, chemical test devices, and other specialized equipment. However, the majority of the funds were used to train and pay the salaries of officers assigned to special DWI patrol units. These patrols normally required the employment of experienced patrolmen dedicated to the arrest of the drunk driver and were in addition to the normal complement assigned to traffic enforcement.

Approximately \$14 million were spent to support court-related functions. The bulk of these funds were used for judicial support personnel to handle the increased DWI caseload and to provide presentence investigation and probation capabilities.

Although representing only a small amount of the total cost of rehabilitation activities, almost \$8 million were spent in this area. These funds were used largely for client

diagnosis and referral activities and the operation of Alcohol Safety Schools.

The more comprehensive rehabilitation and treatment activities were financed by State and local agencies supplemented by grant monies from NIAAA and client fees. Funds were used for a wide variety of activities in public information and education. These activities ranged from curriculum development for public schools to the adaptation of National TV and radio spots for local use. A large portion of the approximately \$6 million spent in this area was devoted to development of material which would appeal to local audiences—presentations telling the public about the serious problem of drinking and driving and explaining what the projects were doing to solve the problem.

The special management and evaluation components of the ASAPs were not considered countermeasures per se. However, at least the integrated systems management provided by the ASAP management office was an essential element of each project. The amount spent for the special management (approximately \$15 million) and for evaluation (approximately \$17 million) activities was more than would normally be necessary to operate a community program, because a number of extraordinary management and evaluation requirements were placed on top of the project activities due to the Federal funding. These monies provided for the development of three or more years of baseline data, the design and implementation of management information system, report writing, and staff salaries for both a planning and final report phase of approximately six months each. Also, 27 of the 35 ASAPs were extended to collect post-ASAP evaluation data at a cost of approximately \$2 million.

Without a Management and Evaluation effort of this scope it would not have been possible to document these projects to the extent that has been achieved, nor would it have been possible to persuade the participating communities to take a more scientific, systematic approach to their drinking driving problem.

More significant than an accounting of overall Federal expenditure or the costing of the special management and

**TABLE 3-2**  
**ALCOHOL SAFETY ACTION PROJECTS**  
**Cost Breakdown**  
**Countermeasure Area**

Cost in \$1,000

	PROJECTS							TOTAL
	Management	Evaluation	Enforcement	Judicial	Rehabilitation	Public Information and Education	Licensing	
FY 69 Starts (Nine Projects)	2,787	4,085	3,948	1,741	2,242	1,339	229	16,371
FY 70 Starts (Twenty Projects)	9,916	10,120	17,451	9,494	3,908	3,734	99	54,722
FY 71 Starts (Six Projects)	2,397	3,526	5,846	2,785	1,616	1,118	7	17,295
Total Cost	15,100	17,731	27,245	14,020	7,766	6,191	335	88,388
% of Total Cost	17.08	20.06	30.83	15.86	8.79	7.00	0.38	100.00

These costs represent only Federal 403 funds. In addition, local and Federal 402 funds in increasing amounts went into each of the programs as projects progressed, particularly in the 10 that were operationally extended for 2 years.

Management and evaluation categories include costs for the development of 2 to 3 years of baseline data, 6 to 9 months of planning phase, final report writing, the development of an extensive data collection-management information system and approximately \$2 million for post ASAP data collection for 27 of the 35 ASAP projects.

evaluation activities associated with a Federal project is the determination of the expected revenue/expenditure picture for local communities wishing to implement systematic alcohol enforcement, adjudication and treatment efforts similar to those demonstrated in the ASAP program. To investigate these financial issues, a special study was funded<sup>65</sup> to study the sources of funds used in the ASAPs, the costs of these programs, and to estimate the costs of implementing such programs without Federal aid.

The basic question investigated in this study was whether or not the ASAP systems concept is a viable approach from a financial standpoint. Financial data were collected from a sample of 10 of the 35 Alcohol Safety Action Project; the sample included state, county, and city projects. Data were developed for the actual projects funded by NHTSA, and were estimated for an assumed condition of local implementation and funding. The primary objective of the research was to determine the potential of ASAPs for financial self-sufficiency. In simple terms, it was assumed that if ASAP programs were to be implemented locally on a wide scale over long periods of

time, it was an absolute necessity that they be cost-effective and that they have the capability for operation at no long-term cost to state or local government.

Details of the methodology and a summary of financial data are presented in Reference <sup>65</sup>. The results of this analysis documented the fact that a comprehensive alcohol countermeasures program can be designed and implemented at minimal cost to a community. ASAP is not a social program that requires a large investment of the general taxpayer's money.

An analysis of the two statewide ASAPs (New Hampshire and South Dakota) out of the 10 projects included in this study provides an example of the variation in financial cost and revenue allocations that occurred in the ASAPs and that might be expected in projects funded without Federal support. For the actual NHTSA-funded program, the New Hampshire ASAP operated with a net revenue to state and local governments of \$1,864,000, and with a net revenue to all governments of \$502,000.

Contrasting sharply with this ASAP was the more typical South Dakota project. South Dakota had a net revenue to State and local governments of \$1,017,000, but with a net cost to all governments of \$815,000. Both projects had the problem of costs exceeding revenues for one of the non-Federal sectors. It was assumed that, if ASAP programs were to be implemented locally on a wide scale over long periods of time, they must be cost-effective and have the capability for operation at no long-term cost to state or local governments.

As part of this study, a theoretical budget was developed to fit the assumption that the project would be entirely locally funded. Cost reductions were made to eliminate the research and report requirements of a demonstration project, but no additional financial burden was placed on the offender. Under the hypothesized system, the new Hampshire ASAP would have operated with a net revenue surplus of over \$2 million for the 3.5 years. Clearly, the New Hampshire ASAP demonstrates the capability for sustained operation at no cost to the taxpayer. The South Dakota ASAP would have operated at a net cost of \$349,000 in tax revenues and for the ASAP to be financially self-sufficient, this State would have had to shift that amount to the offender. Even then, there still would exist the problem of the State paying the majority of the costs, with the cities and counties receiving the revenue. For long term operation, a solution to this problem will require a mechanism to transfer funds from one governmental entity to another governmental entity.

From this analysis of 10 ASAP sites it was concluded that it is possible to implement a locally funded ASAP which is cost-effective. The following statements summarize the more important observations resulting from the analysis:

- The NHTSA-funded Alcohol Safety Action Projects were expensive, averaging \$2.1 million for the 3.5 years of operation. However, this high cost is offset by the fact that in 9 out of 10 sites, the local governments (State, county, city) had net revenues from the projects. If these revenues were taken into account, the 10 Alcohol Safety Action Projects would have had an average cost of \$1.3 million.
- Substantial portions of the costs of the NHTSA-funded Alcohol Safety Action Projects were used to meet the research and reporting requirements of a federally funded demonstration project. With their elimination, it is entirely feasible to implement a State, County, or City Alcohol Safety Action Project which is financially self-sustaining.
- A financial problem, which as apparent in half of the projects included in the analysis, is the fact that in an integrated system of State, county, and city participation, revenues do not always proceed to the agency bearing the cost.

• *Costs to DUI Offenders*

In addition to the various fines and fees levied against the DUI (Driving Under the Influence) offender under the policies and assumptions of the three cases considered in the simulation, there are certain other costs which the offender will generally be required to pay. These nonpolicy-related costs include towing fees, bail bondmen fees and attorney fees.

While this financial analysis of the ASAP data indicated that there was a potential for projects to be self-sufficient, the real proof of this potential remains to be demonstrated. Several States (Virginia, Arkansas, Colorado, Idaho, South Dakota and California) have passed laws providing for the collection of fees from convicted drunk drivers to support activities such as those funded in the ASAP program. In some cases, those funds are to be used only for education and rehabilitation programs. In others, notably Virginia, they are earmarked for the support of coordinated interagency programs.

The Virginia ASAP (VASAP) program was established through legislation that currently provides for a \$200 fee to be collected from each individual convicted of drunk driving. Ten percent of this fee goes to the State to support a State VASAP office while the rest remains in the community. These funds support a project management office, police department, court and rehabilitation facility activities. As in other areas, the majority of the funds are supporting court diagnostic and treatment referral activities and the expenses of short term rehabilitation. Some of these sites are also funding training for police officers and according to the 1976 Annual Report<sup>66</sup> two sites were funding special patrols. The success of the program in becoming self-supporting is summarized in the State's latest report<sup>66</sup> as follows:

"A major goal of VASAP is to become totally self-supporting from client fees. At present, a maximum fee of \$200 can be levied on each client, which pays for all services except extended treatment. A number of older programs are approaching self-sufficiency based on present needs and income. Though evidence looks hopeful, it remains to be seen if the entire State program can support itself on fees alone, without continued Federal funding. Total fees collected for fiscal year ending June 1977 are \$1,391,000 compared to \$609,858 the previous year.

"A problem remains for the future, however, financial self-sufficiency is another problem area. The number of projected VASAP referrals for 1978 is 19,530 which will give the local programs a maximum of \$3,515,400 in fees from clients. Estimated budgets total \$4,003,956. This leaves a deficit of \$488,556. The actual existence or size of a 1978 deficit depends on a number of additional factors which cannot be accurately predicted at this time<sup>66</sup>."

The Virginia program, while just getting underway,

**TABLE 3-3**  
**ANALYSIS OF BUDGET AND STAFF TO POPULATION**  
**AND LICENSED DRIVERS**

Operational VASAPS	Budget	Population	Licensed Drivers	Staff Size	Budget Dollars To Population	Budget Dollars to Licensed Drivers	Staff Per 100,000 Population	Staff Per 100,000 Licensed Drivers	Staff Per 1,000 Arrested Drivers
Arlington	261,000	153,200	114,904	14	1.70	2.27	9.1	12.2	13
Central Virginia	118,133	176,600	105,586	6	.67	1.03	3.4	5.2	6.9
Fairfax	412,536	548,600	388,100	—	.75	1.06	—	—	—
First Planning District	114,639	90,600	49,921	6	1.26	2.23	6.5	12.0	6.8
John Tyler	212,000	253,700	158,217	6	.84	1.34	2.4	3.8	6.5
Mental Health Ser. (Roanoke Valley)	182,316	238,900	154,581	11	.76	1.18	4.6	7.1	13.4
Mount Rogers	158,658	165,200	96,177	8	.96	1.65	4.8	8.3	6.9
New River Valley	167,970	124,500	69,051	6	1.35	2.43	4.8	8.7	10.6
Peninsula	359,370	330,200	192,454	14	1.09	1.87	4.2	7.3	6.8
Piedmont ASAP	160,661	79,500	44,999	7	2.02	3.57	8.7	15.5	16.3
Richmond	165,581	233,000	131,197	6	.71	1.26	2.5	4.5	15.1
Southeastern	240,319	303,000	165,830	14	.79	1.45	4.6	8.4	10.3
Southside	124,105	82,000	46,754	6	1.51	2.65	7.3	12.7	13.8
Tidewater (Norfolk)	—	498,400	254,616	—	—	—	—	—	—
Winchester/Frederick County	120,000	115,600	74,670	7	1.04	1.61	6.0	9.3	17.6

provides some indication of the staff sizes, costs, and potential revenues for locally funded Alcohol Safety Action Projects. As might be expected, the budgets are highly variable, even when normalized by population or number of licensed drivers. (See Table 3-3.) The report indicated that three levels of administrative staffing were typical. "(1) A minimum staff would normally consist of a project director, a case manager, and a secretary, at an annual budget of approximately \$60,000. (2) An intermediate level might consist of a project director, a case manager supervisor and an assistant, a PI&E specialist, and secretary, with an annual budget of perhaps \$90,000. (3) Finally, a large project might support a project director, a case manager supervisor and two assistants, PI&E specialist, secretary, and clerk typist/data reducer with an annual budget of \$120,000<sup>68</sup>."

Clearly, administrative costs must be kept to a minimum if a project is to be self-supporting. There is a minimum overhead that must be covered in any project. Therefore, total volume of cases handled is very important to self-sufficiency. The effect of different arrest levels was well-illustrated in the Virginia report, as indicated below:

"Obviously, the budget for a VASAP must be related to the potential income that can be derived from fees if it is to be self-supporting. Using the \$180.00 fee figure it is possible to estimate the range of income that a given community can provide, based on several assumptions regarding the number of licensed drivers arrested and the proportion of those who pay the VASAP fee. This is done in Table 1-4. This shows, for each of the currently operational VASAPs, the revenue potential as a function

**TABLE 3-4**  
**VASAP Revenue Potential As A Function Of Arrest Level And**  
**Proportion Of Apprehended DUI's Who Pay VASAP The Current Fee**  
**Of \$180 (200-20 For State/ASAP)**  
**(In Thousands Of Dollars)**

Operational Projects:	50			100			200			Budget Dollars Per Arrest
	Arrest Per 10,000 Licensed Drivers	50%	75%	90%	50%	75%	90%	50%	75%	
Arlington	\$52	\$78	\$93	\$103	\$155	\$186	\$207	\$310	\$372	\$243.
Central Virginia	48	71	86	*(118) 95	143	171	190	285	342	118.
Fairfax	175	262	314	*(489) 349	524	629	699	1,048	1,164	115.
First Planning District	22	34	40	45	67	81	90	135	162	129.
John Tyler	71	107	128	142	(212) 214	256	285	427	513	228.
Mental Health Services	70	104	125	139	(182) 209	250	278	417	501	207.
Mount Rogers	43	65	78	87	130	(159) 156	173	260	312	137.
New River Valley	31	47	56	62	93	112	124	(168) 186	224	297.
Peninsula	87	130	156	173	260	312	346	520	624	175.
Piedmont	20	30	36	40	61	73	81	121	146	375.
Richmond	59	89	106	118	(166) 177	213	236	354	425	416.
Southeastern	75	112	134	149	*(240) 224	269	298	448	537	177.
Southside	2	32	38	42	63	76	84	(124) 126	151	286.
Tidewater	115	172	206	229	344	412	458	687	825	—
Winchester/Frederick	34	50	60	67	101	(120) 121	134	202	243	168.

Numbers in parenthesis are the most recent budgets provided by the project.  
 \*Denotes the current arrests per licensed driver and the clients per arrest that a VASAP is experiencing, or experienced during its baseline period.

of the arrest-rate and the proportion of arrested drivers who ultimately pay a VASAP fee. For each project an estimate is provided for an arrest-rate of 50 per 10,000, 100 per 10,000 and 200 per 10,000. Each of these arrest-rates is then combined with the 50, 75, or 90 percent proportion of those arrested who pay VASAP fees. Based on these data, minimum and maximum revenues for each site can be determined using the number of licensed drivers in 1974 in each of the VASAPs. Thus the Arlington VASAP has an income potential from \$52,000 assuming a 50 per 10,000 licensed drivers arrest-rate and a 50 percent enrollment rate, to a \$372,000 in revenues assuming a 200 DUI arrest-rate per 10,000 licensed drivers with a 90 percent enrollment rate in VASAP."

"Superimposed on this table are the most recent budgets, in parenthesis, provided by the projects. As can be seen, for most of the projects, these budgets run towards the high end of the revenue potential. Also superimposed on the table is an asterisk denoting the current arrest/licensed-driver-rate and client/arrest-rate that a VASAP is experiencing or has experienced during its baseline period. As can be seen, these generally fall well below the point at which the current budget is set. This indicates that most of the projects will probably experience some deficit during their first year. This, of

course, is not surprising, since it will take some time to build up the enforcement-judicial effort to the point where larger numbers of clients will be flowing through the system. From Table 3-4 it appears that it is possible for the VASAPs to break even with the current fees, assuming that they can successfully raise the number of VASAP clients to the maximum levels shown. The last column in this table gives the dollar per arrest for the latest available data. Since the VASAP retains \$180.00 of the \$200.00 fees, those projects which have budget levels less than \$180.00 are close to paying their way. However, since not all arrested drivers enter VASAPs, even some of these projects may run a deficit<sup>68</sup>."

Overall, both the ASAP data and the preliminary data from the State of Virginia indicate the potential for funding a special, systematic alcohol countermeasure effort, on a pay-as-you-go basis from fines or fees assessed drinking drivers. It appears, however, that unless some of the funds are used to increase enforcement, many communities will not have a sufficient client flow to meet the overhead costs of a special alcohol safety office. It also remains to be demonstrated that an effective treatment/education program can be mounted within a fee structure that can be imposed in most communities.

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