RESULTS OF NATIONAL ALCOHOL SAFETY ACTION PROJECTS

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

RESULTS OF THE NATIONAL ASAP PROGRAM

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

I. Enforcement

Background

Enforcement is the basis of the entire system for controlling drinking drivers; if the police do not detect and apprehend enough drinking drivers, the rest of the system cannot function. State and local law enforcement agencies have long considered drinking drivers one of the most difficult problems in accident prevention and enforcement agencies have long recognized that drinking drivers are involved in a disproportionate number of crashes. They are also aware that the rate of arrests and convictions for Driving While Intoxicated (DWI) is too low. Thus, they responded very actively to the special enforcement countermeasures of the Alcohol Safety Action Program (ASAP), as they have to previous campaigns.

There are many explanations for the historically low rate of arrests and convictions. One reason is the nature of the legislated penalties for DWI. Correctly perceiving the high degree of risk presented by drinking drivers, legislatures set up heavy penalties for DWI, including heavy fines and/or mandatory jail sentences, and mandatory suspension of the driver's license for up to a year. The legislative assumption was that drinking drivers are clearly alcoholics with little control over themselves and little respectability. This, however, is not a picture of the drinking driver who reaches the courts. As judges and prosecutors discover that they are dealing with regular citizens who have jobs, families, and a future, they begin to regard the legislated penalties as too severe. Juries agree; they see the offender as a person like themselves. They are unwilling to see him suffer "too much," especially when the arrested individual is not involved in a crash—which is the case in the vast majority of arrests. (Table 1-1 shows the demographics of offenders in Fairfax County.)

Table 1-2 shows that the Blood Alcohol Contents (BAC) category by defender characteristic is fairly constant, except that "under 25" and "students" have relatively low BACs, probably caused by lower tolerance for alcohol. The result is that the courts have begun to handle drinking drivers lightly in order to evade the penalties. As a result, police cite many drinking drivers for lesser offenses, get them off the road temporarily, and avoid the labor of proving a case which the court system does not treat "seriously." In this respect, they are clearly responding to the attitude of the public.

Further, drinking drivers are well protected from false arrest by both legislation and court rulings. The result is to make the procedures for arresting a drinking driver much more cumbersome and time-consuming then for any other traffic offense. Some statutes, for instance, required a licensed physician to take a blood test. Cooperative physicians were hard to find, and they did not want to risk potential involvement in a civil suit. Under these circumstances, it was easier for the officer to see that the driver got home safely, charged with a lesser offense. Patrolmen cannot give up four hours of patrol time to arrest a single driver. Nor can supervisors with good conscience assign officers to time-consuming DWI cases, so orders often go out to arrest only the very worst drinking drivers or those who were involved in an accident.

Patrol patterns are not usually organized to detect the maximum number of drinking drivers. The peak hours of DWI activity are late at night, when accident rates and vehicle counts are lowest, although crash severity and alcohol involvement are highest. (See Tables 1-3 and 1-4 for arrests by time of day, and day of week.) Note in Table 1-5 that midnight to 4 a.m. requires the fewest man-hours per alcohol-related traffic arrests, followed by 8 p.m. to midnight. However, traffic patrols are normally assigned to peak accident and traffic hours according to the general principles of selective assignment. General patrols operating at night also have heavy crime prevention respon-

TABLE 1-1

SUMMARY OF DWI OFFENDER CHARACTERISTICS
FAIRFAX CO., VIRGINIA
1972 DATA

MAJOR CATEGORY	SUB-CATEGORY	PERCENT
SEX	MALE	93
	FEMALE	7
AGE	<25	17
	25-34	30
	35-44	29
	45-54	18
	>55	6
EDUCATION	HIGH SCHOOL OR LESS	70
	COLLEGE (1 YEAR OR MORE)	30
OCCUPATION	PROFESSIONAL/BUSINESS	29
	CRAFTSMAN/LABORER	49
	OTHER	22
RESIDENCE	ASAP AREA	54
	OTHER AREAS	46
MARITAL STATUS	MARRIED	62
	SINGLE	20
	WIDOWED, SEPARATED, DIVORCED	18
FAMILY INCOME	UNDER $5,999	14
	$6-14,999	48
	$15 - OVER $25,000	33
	UNKNOWN	5
PREVIOUS DUI ARREST	NONE	86
	ONE OR MORE	14
PREVIOUS RECKLESS ARREST	NONE	63
	ONE OR MORE	37
OTHER MOVING VIOLATIONS (LAST 3 YEAR)	NONE	56
	ONE OR MORE	44
LICENSE REVOKED	NONE	62
	ONE OR MORE	38
REPORTABLE ACCIDENTS (LAST 3 YEARS)	NONE	75
	ONE OR MORE	25
ARREST RECORD (LAST 5 YEARS)	NONE	88
	ONE OR MORE	12
	TOTAL DWI OFFENDERS	821

SOURCE: Analysis of ASAP Patrol Activity Fairfax Co., Virginia ASAP

sibilities. The effect of this combination is that neither regular patrols nor traffic patrols can concentrate on drinking drivers at the times when they are most common and easy to detect.

Training in the specialized area of DWI has not been a high priority. Untrained officers can easily detect very badly impaired drivers, but they cannot spot those whose impairment is less obviously dangerous. And many offi-

TABLE 1-2

PERCENT OF DUI OFFENDERS IN BAC CATEGORIES

Fairfax Co., Virginia
1972 Data

DUI Offender Characteristic		Percent in BAC Category					Total Cases (N)
		Under .10	.10-.15	.16-.25	Over .25	Refused Test or Unknown	
Age	Under 25 Years	12	34	37	2	14	139
Education	8th Grade or Less	1	17	52	17	13	104
Occupation	Student	19	44	26	0	11	27
Residence	ASAP Area	4	15	48	12	22	439
	Other Area	3	24	50	8	15	322
Marital Status	Married	2	18	50	11	19	505
	Single	10	23	48	4	15	164
Previous DUI Arrest	One or More	0	12	49	17	22	115
	None	4	20	49	9	18	706
Previous Reckless Arrest	One or More	2	16	52	12	18	304
	None	4	21	48	9	19	517
Total Sample		3	19	49	10	18	821

Source: Analysis of ASAP Patrol Activity
Fairfax Co., Virginia

cers develop a distorted perception of the relationship between BAC and impairment; since they mostly see cases where the driver's BAC is extraordinarily high (0.20 percent or above) they come by habit to regard a lower BAC as "low," despite scientific knowledge about the degree of impairment. Having detected a suspect, officers were often inadequately trained in the next step of administering the field tests, and the field tests themselves—even today—miss a high proportion of drivers with illegal blood alcohol levels. After the field tests, specially trained personnel are required to administer the breath test, and such personnel are in short supply and heavy demand.

Arrest and patrols for DWI are not pleasant. The easiest place to find a drinking driver is near the place where he drinks, but the visible presence of a patrol vehicle near a liquor establishment often results in complaints of harassment by the proprietor and trouble for the department. The arrested individuals, intoxicated and likely to be angry, are not easy to deal with either on the street, in the police vehicle, or in the station. Against such difficulties, police who continue to make a large number of DWI arrests have to be highly motivated.

It was therefore clear that there were many opportunities for Alcohol Safety Action Programs (started in 1971) to provide assistance to local and State enforcement agencies, and the police welcomed the help. The average project allocated about one-third of its funds to enforcement, and over the life of the project, increases of up to 300 percent in the number of arrests were not unusual.

Approach

The basic thrust of the Program's enforcement countermeasure was to permanently increase the number of detected and apprehended drinking drivers. Local enforcement agencies have for a long time conducted short-term efforts to control the drinking driver, but the real challenge was to design a system whereby increased arrests would (a) permanently match the number of drinking drivers on the road, and (b) provide enough cases for the rest of the drinking driver control system to make

TABLE 1-3

AVERAGE BACs AND PERCENT OF ARRESTS WITH BACs TAKEN BY TIME OF DAY
1972 Data*

Patrol	M — 4a.m.	4a.m. — 8a.m.	8a.m. — N	N — 4p.m.	4p.m. — 8p.m.	8p.m. — M	24 HOUR AVERAGE
			Average BAC (%)				
ASAP	.17	.18	.20	.19	.18	.18	.178
Regular	.18	.18	.21	.21	.20	.19	.195
			Percent of Arrests with BAC Taken				
ASAP	85	83	80	86	80	86	84.1
Regular	80	78	77	75	79	80	78.7

*All FY 1970 and FY 1971 ASAPs except Wisconsin and Boston.

TABLE 1-4

DISTRIBUTION OF ASAP ALCOHOL-RELATED TRAFFIC ARRESTS BY DAY OF WEEK
1973

Item	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
21 ASAPs:								
Number of arrests	2,180	4,342	4,710	5,727	8,682	7,985	2,007	35,633
Percent	6.1	12.2	13.2	16.1	24.4	22.4	5.6	100.0
6 ASAPs:								
Number of arrests	624	665	875	1,027	1,983	2,071	1,006	8,251
Percent	7.6	8.1	10.6	12.4	24.0	25.1	12.2	100.0
27 ASAPs:								
Total	2,804	5,007	5,585	6,754	10,665	10,056	3.013	43,884
Percent	6.4	11.4	12.7	15.4	24.3	22.9	6.9	100.0

special actions by other agencies worthwhile. This involved much greater attention to equipment, training, procedures, legislation, and cost effectiveness than is usual in a special enforcement campaign. The Program's main enforcement concept seemed traditional: "Special enforcement at the times and places where drinking is done," coupled with "improved identification and processing" of intoxicated drivers. But the concept in operation represented a major overhaul of the entire enforcement system, and it was therefore of a magnitude and duration that is unique in the history of highway safety.

The Program concentrated on the three main areas of detection, apprehension, and processing of impaired drivers. The typical project undertook the following activities:

Detection

It is estimated that prior to 1970 there were about 2 DWI arrests per uniformed officer per year. The arrest rate was about 5 out of each 1,000 drivers, and some 2,000 incidents of drinking driving went undetected for each arrest. In other words, the level of police effort did not match the extent of the problem. The Program sought to increase substantially the amount of patrol activity by (a) creating special DWI enforcement patrols, (b) increasing DWI activity among regular patrols, and (c) altering patrol times and locations to correspond more fully to drinking driving behavior. This required considerable planning and evaluation that was designed to provide a scientific basis for patrol activity. The sites of alcohol-related accidents were analyzed and given special attention, as were the known concentrations of drinking driving behavior. Patrol resources were reorganized to match the times and places where drinking driving occurred. (In some sites, this included the use of roadside surveys.) Specialized training in the detection and apprehension of drinking drivers was provided to officers in special and regular patrols. Such training had not been available before.

Apprehension

Emphasis was on identifying impaired drivers either while they were still on the road or after the initial stop. Training and providing equipment were the main activities, and a great deal of experimentation was conducted in both areas. For example, the use of videotape on the street and in station-houses as a method of evidence-collection was thoroughly investigated, but the most cost-effective and practical device turned out to be the new "screening breath testers."

Processing

Processing was an area that drastically needed improvement. At all stages, from field-testing to trial, DWI cases represent a very significant drain on police time because of procedural and evidentiary requirements and because of the practices of the courts. The projects approached the problem through several avenues. They provided police agencies with new breath-testing equipment and with facilities (such as mobile vans) needed to handle the increased caseload. By training special operators and working out manpower rosters, they reduced the amount of time a patrol officer was taken off the road. They paid for expert witnesses to testify concerning BAC and breath-test equipment in contested cases, thus improving the credibility of police testimony. They emphasized changes in the court calendar and other procedures so that officers would spend less time waiting to appear. They sponsored legislation which would ease the burden of evidence-collection and evidence-presentation for officers. And they encouraged the prosecutors to work closely with police officers on preparing cases.

The objective of all three activities was to increase the efficiency of enforcement. The extra funds were spent wherever possible on long-range improvements rather than on "one-shot" tasks, although the equipment in many sites was so poor that basic purchases were necessary. The endeavor was to discover methods by which the police agency could permanently, and at minimal cost, improve the priority given to DWI cases. Effectiveness was another matter. The Program's ultimate objective, of course, was to reduce the number of alcohol-related accidents, but in 1970 little was known about the level and nature of the enforcement needed to affect those accident rates significantly. The projects sought to answer the question: what arrest-rate was high enough to deter drinking drivers without antagonizing the public? They also examined recidivism patterns, or rearrests, to determine effects on persons who have been through the system.

The objective of enforcement agencies is to detect and process persons who combine abusive drinking and driving, and to deter them and others from such behavior in the future. The objective of the projects was to increase enforcement efficiency to the point where it could show long-term effectiveness in controlling drinking drivers, ultimately measured by a reduction in alcohol-related accidents. The objective of the Program was to record techniques for improving efficiency, and to measure the effect of increased and improved enforcement on accident rates during the period of project operation.

Results

Enforcement techniques and goals differed widely from area to area, making it difficult to generalize about results. There is at least one exception for every generalization. Results can be presented with respect to efficiency measures and support functions, but whether or not the Program was able to deter drinking driving behavior and reduce alcohol-related accidents is a more complex issue. This question is discussed in the chapter on overall program impact.

The most dramatic result that occurred in the ASAPs was a substantial increase in arrests by both special and regular patrols, achieved by increasing and reorganizing patrol activity, improving and increasing training, and improving procedures (See Tables 1-6 and 1-7). Increases of 300 percent in the number of arrests were not unusual (though the average was lower). One project increased arrests from 178 in 1971 to 3,500 in 1975. Special patrols had a catalytic effect on regular patrols, which contributed heavily to the increased number of arrests and to incorporating alcohol enforcement as a regular part of the

enforcement agency's continuing emphasis. It must be concluded that the Program showed enforcement agencies how to vastly increase their level of DWI activity without necessarily incurring a large increase in expenditures.

A series of important advances was made in the area of breath-testing, the most important evidentiary tool. The projects encouraged universal use of breath-tests and sponsored improved equipment that would make test results more credible. They showed that breath-tests were more efficient then blood or urine tests, and they developed options for saving patrol officer's time by bringing the instrument near the scene of arrest. It was demonstrated that the use of pre-arrest "screening" breath-testers was much more effective and less costly than traditional psychomotor tests in allowing police to detect impaired drivers. The use of videotape as a supplement to breath-testing was also examined.

The projects revealed areas where enforcement countermeasures need extra funding or outside assistance; e.g., acquisition of special equipment, increases in patrol hours, special training, analysis of accident and driving patterns as compared to patrol patterns, legislation, data and information flow, and liaison with the court system.

The projects showed that cost-effectiveness can be readily achieved by (a) training, (b) analysis of both police and court procedures, (c) the degree of motivation provided by top police management, and (d) regular liaison with prosecutors and the court system. It was also demonstrated that it is possible to produce a permanently increased level of enforcement activity in the area of DWI, and that there are a number of alternative methods for achieving long-term improvement.

TABLE 1-5

ASAP PATROL MAN-HOURS PER ALCOHOL-RELATED TRAFFIC ARREST BY TIME OF DAY
1972 Data*

	Time Period						
	M — 4a.m.	4a.m. — 8a.m.	8a.m. — N	N — 4p.m.	4p.m. — 8p.m.	8p.m. — M	24 HOUR AVERAGE
Man-Hours per A/R Arrest	9.5	20.9	54.5	51.2	45.8	15.6	15.9

*Does not include Wisconsin, Boston, Indianapolis, New Hampshire, and South Dakota ASAPs since data on both arrests and man-hours are not available.

There is much experimentation and development left to be done. No project reached a level of arrests at which deterrence or a clear reduction in accidents could be traced definitely to the enforcement countermeasure. The projects spent a great deal of their energy bringing enforcement practices up to the point where they could begin to show real dividends. But the continued need for experimentation should not detract from the projects' achievements; with the aid of quickly developed techniques they showed that the nation could economically double or triple its current rate of DWI arrests. Never before has the level of DWI enforcement activity come as close to the actual number of drinking drivers.

Findings and Recommendations

The following questions are those most often asked by State and community officials. The questions and answers are classified under five major headings: I. State Level Assistance, II. Number of Arrests, III. Patrol Techniques, IV. Training, and V. Equipment. The answers are taken from overall Program results and from the experience of the individual projects.

I. State-Level Assistance

Q. In the area of enforcement, what special activities should be emphasized by state-level agencies and personnel?

A. a. States should take the initiative in developing a statewide DWI enforcement campaign. Increased activity in one community does not radiate (in the absence of State initiative) to other communities. Further more, enforcement levels in a single community are often hampered by

TABLE 1-6

ASAP AND REGULAR PATROL ARRESTS

Fiscal year and ASAP	Baseline		First operational year			Second operational year			Increase in total arrest	
	Regular	Total	ASAP	Regular	Total	ASAP	Regular	Total		
	1971		1972			1973			1971 vs. 1972	1972 vs. 1973
Fiscal year 1971:										
Baltimore	2,532	2,532	1,046	3,005	4,051	1,028	3,522	4,550	1,519	499
Boston	748	748	22	817	839	359	1,103	1,462	91	623
Cincinnati	460	460	857	2,048	2,905	1,284	2,358	3,642	2,445	737
Columbus, Ga.	1,469	1,469	2,351	1,371	3,722	2,416	1,044	3,460	2,253	-262
Fairfax County, Va.	75	75	1,020	1,923	2,943	1,086	2,691	3,777	2,868	834
Hennepin Co., Minn.	3,414	3,414	1,020	4,181	5,201	1,560	5,833	7,393	1,787	2,192
Indianapolis	1,433	1,433	2,613	1,820	4,433	2,585	2,490	5,075	3,000	642
Kansas City	2,463	2,463	1,500	3,554	5,054	1,876	3,671	5,547	2,591	493
Lincoln	375	375	340	582	922	465	1,160	1,625	547	703
New Hampshire	2,821	2,821	748	4,790	5,538	746	6,957	7,703	2,717	2,165
New Orleans	1,520	1,520	2,364	1,877	4,241	3,123	1,395	4,518	2,721	277
Oklahoma City	0	0	2,079	1,647	3,726	3,530	1,357	4,887	3,726	1,161
Phoenix	6,696	6,696	2,292	7,803	10,095	1,508	7,363	8,871	3,399	-1,224
Portland, Me.	1,394	1,394	742	1,659	2,401	738	1,639	2,377	1,007	-24
Pulaski Co., Ark.	963	963	2,967	2,792	5,759	3,302	2,661	5,963	4,796	204
Richland Co. S.C.	1,351	1,351	995	1,703	2,698	1,278	1,356	2,634	1,347	-64
San Antonio	1,130	1,130	3,355	1,991	5,346	3,288	1,773	5,061	4,216	-285
South Dakota	1,667	1,667	402	2,705	3,107	595	2,580	3,175	1,440	68
Tampa	1,420	1,420	3,583	2,666	6,249	4,256	3,778	8,034	4,829	1,785
Vermont	482	482	143	783	926	291	922	1,213	444	287
Wichita	602	602	295	737	1,032	332	1,080	1,412	430	380
Total	33,015	33,015	30,734	50,454	81,188	35,646	56,733	92,379	48,173	11,191

(a) difficulties in legislation or recordkeeping that can be solved only at the State Level, and (b) lack of liaison with other communities, including those in neighboring States, in which drivers reside or through which they drive.

b. The State Highway Safety Agency should act as a repository of information culled from the national level, from other States, and from communities within the State. The information should include technical, progress, and annual reports, education and information materials, and planning data. The objective should be to assist communities in identifying the extent of their alcohol-related highway safety problem, in acquiring the most recent information about proven responses, and in developing the responses best suited to the individual community.

c. States should provide seed-money to reduce the initial expenses of increased enforcement. The money should be used for problem identification, program development, training, and equipment.

d. States should avoid encoraging long-lasting reliance on State-level funds by showing communities how to develop alcohol countermeasure systems that have a reasonable expectation of being self-supporting through fines and client fees.

e. States can assist increased enforcement efforts by contacting local political leaders in order to raise their estimation of the effort's importance and by offering assistance in identifying the extent and costs of the community's problem. States should encourage communities to assign additional police officers to patrol during days and hours of high DWI incidence.

f. States should provide monitoring, technical advice, and consultants to communities, especially in understanding the systems' approach to alcohol countermeasures.

g. States should pay particular attention to activities in rural areas or smaller cities. Large metropolitan areas have greater resources, and in terms of numbers, they tend to have the more obvious problem. Smaller communities need more help to start things moving. Area-wide coordination can be an inexpensive way to help them. Working

TABLE 1-7

ASAP AND REGULAR PATROL ARRESTS

Fiscal year and ASAP	Baseline		First operational year			Second operational year			Increase in total arrest	
	Regular	Total	ASAP	Regular	Total	ASAP	Regular	Total		
	1970		1971			1972			1970 vs. 1971	1971 vs. 1973
Fiscal year 1970:										
Albuquerque	1,078	1,078	659	1,078	1,737	1,704	1,982	3,686	659	1,949
Charlotte	2,066	2,066	9	2,608	2,617	1,790	2,572	4,362	551	1,745
Denver	2,626	2,626	624	5,205	5,829	907	5,516	6,423	3,203	594
Nassau Co., N.Y.	2,047	2,047	0	2,602	2,602	762	3,358	4,120	555	1,518
Portland-Eugene	1,612	1,612	717	1,974	2,691	936	3,443	4,379	1,079	1,688
Seattle	4,596	4,596	1,281	6,185	7,466	2,700	7,083	9,783	2,870	2,317
Washtenaw Co., Mich.	677	677	146	902	1,048	305	920	1,225	371	177
Wisconsin	290	290	213	450	663	112	702	814	373	151
Total	14,992	14,992	3,649	21,004	24,653	9,216	25,576	34,792	9,661	10,139
	1971		1972			1973			1971 vs. 1972	1972 vs. 1973
Fiscal year 1972:										
Delaware	2,052	2,052	477	2,168	2,645	661	2,256	2,917	593	272
Idaho	2,666	2,666	728	4,788	5,516	1,795	5,101	6,896	2,850	1,380
Los Angeles County	4,888	4,888	449	7,285	7,734	1,598	8,596	10,194	2,846	2,460
Puerto Rico	1,143	1,143	458	1,530	1,988	2,102	2,833	4,935	193	2,947
Salt Lake City	4,000	4,000	824	4,000	4,824	1,433	4,423	5,856	824	1,032
Sioux City	133	133	144	194	238	330	243	573	105	335
Total	15,534	15,534	3,080	19,965	22,945	7,919	23,452	31,371	7,411	8,426

with State-level structures, e.g. the court system, State police, the Council of Governments, and professional organizations, proved effective at several projects.

II. Number of Arrests

Q. When should projects try to increase for number of arrests?

A. The timing of a large increase in arrests may be different at different sites, but in general it should occur at the beginning of a project.

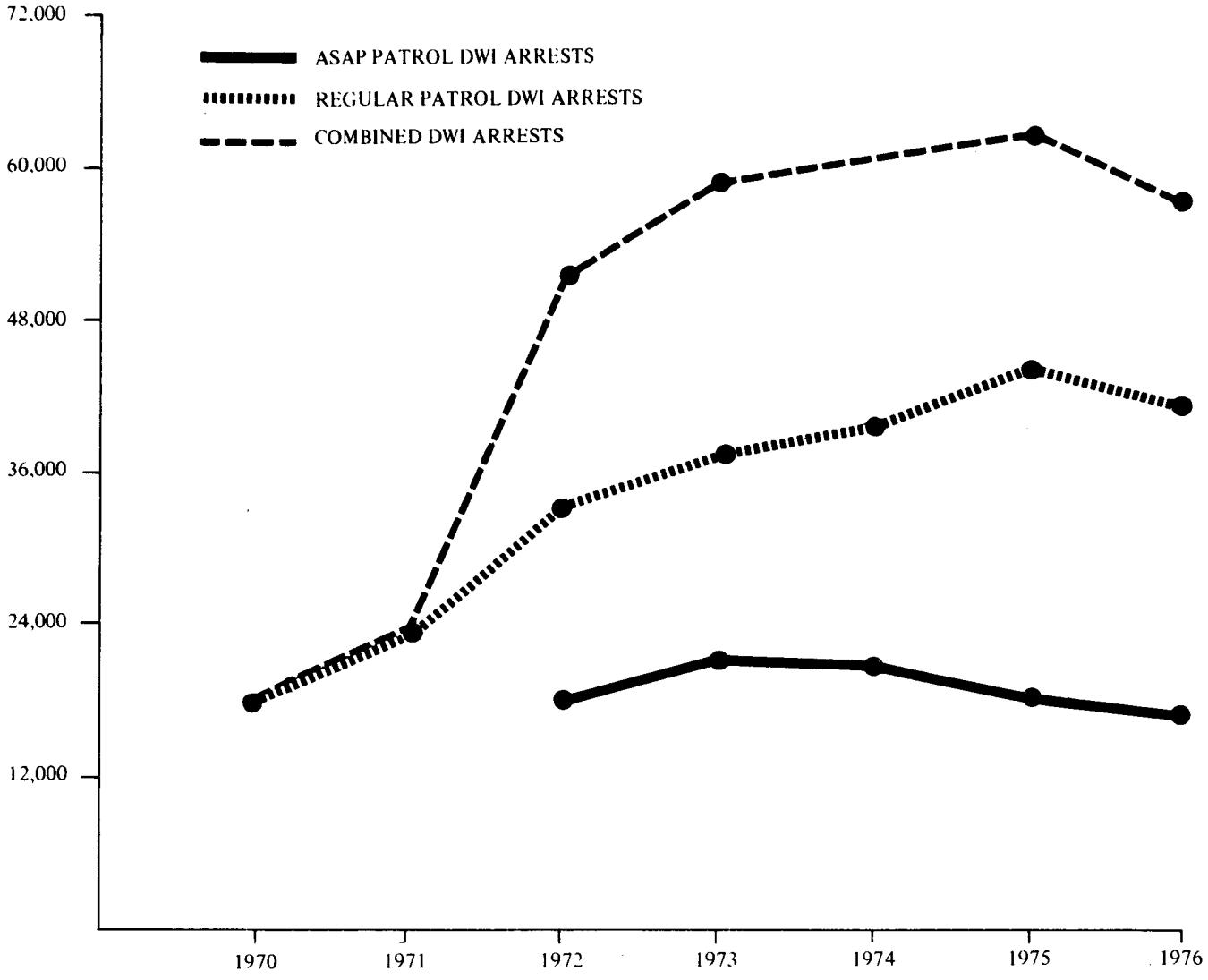
A high priority for the nationwide ASAP program was to show that the number of arrests could and should be increased. Accordingly, an average of 31 percent of each project budget went to enforcement, and most projects included an enforcement coordinator on staff. Increases of 300 percent in the volume of arrests were common, though not universal. The main thrust of the extra funds was to provide more and newer equipment, to create a special DWI enforcement effort, and to increase training. The same goals can be reflected in a normal police budget (i.e., they do not absolutely require an infusion of special funds), although this usually occurred only if police management identified DWI enforcement as a high priority.

The following chart (Figure 1-1) shows the general pattern of arrests during five years of operations at 10 selected project sites. The chart shows an expected decline from peak levels of activity, but numbers of arrests have risen more or less permanently, especially because of the increase in arrests by regular patrol officers. Rotation through the special DWI enforcement units, competition between the special unit and regular patrols, training, availbility of equipment, development of new techniques and procedures, and an enduring change in police management priorities combined to effect a long lasting change in arrest levels.

Even with the greatly increased arrest-rates, no site reported a shortage of drinking drivers. Nor did any adverse public reaction prove serious. Alcohol-related accidents decreased, but not dramatically.

FIGURE 1-1

DWI ARREST ACTIVITY—10 SELECTED SITES



The conclusion must be that any jurisdiction can and should increase the number of arrests for alcohol-impaired driving.

The timing of any increase in arrests can be debated. At almost all projects, the number of arrests rose early and rapidly, before other agencies were organized to handle the increased caseload. The result was an overall increase in system inefficiency as backlogs developed in the courts and as education and rehabilitation agencies were forced into a hasty response. Opinions among the projects varied as to the value of this overload. In some projects the crisis forced agencies to change more quickly and efficiently than would otherwise have been the case; it was therefore regarded as a productive tactic to bring about system change. Other projects found parts of the overall system succumbing to overload and taking the easiest rather than the best solution. The recommedation of such projects was to delay a rapid increase in arrests until every agency is ready to handle them. The National Highway Traffic Safety Administration (NHTSA) recommends increasing arrests as soon as is feasible. To delay activating increased enforcement may slow down change throughout the system and may hamper subsequent increases in the enforcement effort, which is the basis of the entire system.

Q. What arrest-rate is desirable and effective?

A. Ideally, an arrest-rate should be determined by the number of drinking drivers on the roads, and it should be high enouph to make enforcement "real" enough to deter peopie from driving after drinking. The experience of the projects did not give us specific figures to attach to these goals. It showed only that the number of drinking drivers is higher than had been expected and that the arrest-rate that would theoretically act as a deterrent is higher than any arrest-rate achieved by a project.

Arrest-rates at all sites prior to ASAP's start-up were within national norms. They varied from a low of 0.1 percent in Cincinnati to a high of 3.7 percent in Columbus, Georgia. (Arrest-rate is defined here as the number of drivers arrested in a year as a percentage of licensed drivers in the jurisidiction.) Arrest-rates increased dramatically during project operations. The number of arrests increasd by as much as 300-400 percent in most sites. Evaluation measurements showed that none of these arrest-rates caused a dramatic reduction in the number of drinking drivers available, or in the total number of alcohol-related accidents. Thus the "ideal" arrest-rate is unknown.

Resources were the main limitation on higher arrest-rates. Adverse public reaction did not have the substantial effect that some people had anticipated. Most sites experienced some resistance to the increased volume of arrests, especially from bar owners or liquor retailers, particularly if patrols were heavy in the vicinity of drinking establishments. The negative reactions proved temporary and did not carry weight with the public or the media. In fact, surveys indicated citizen support for even higher arrest-rates. It must therefore be concluded that temporary public reactions should not be used to set a limitation in arrest-rates.

Q. Where should extra resources be placed to increase arrest-rates?

A. This depends on the gaps in the local system, which need to be identified. However, all projects allocated extra resources to roughly the same areas, and their success can be interpreted to indicate that they learned the real causes behind the low arrest-rates common nationwide. The general areas are as follows:

a. Special equipment, which varied from patrol cars to chemical-test instruments. All jurisdictions lacked some special equipment, or had outmoded equipment.

b. Increased patrol hours. The number of patrol hours allocated to DWI enforcement is partly a function of the priorities declared by local police management, and partly the result of competition for resource between conflicting police missions. All sites increased patrol hours, mostly by creation of a special DWI enforcement unit. The general level of police activity tends to be lower during the hours of peak DWI activity, so that it was possible to add patrol hours (at night) without detracting from other police missions.

c. Special training. This is discussed elsewhere in more detail. It was the most cost-effective method of increasing arrest-rates.

d. Analysis of accident and patrol patterns. Encouraging or assisting police to allocate their patrol activity to those areas of high DWI activity increased arrests. Locations of prior accidents do not always signal areas of peak DWI activity, but clusters are an important indicator.

e. Assistance with legislation to smooth the arrest process. Such legislation often deals with technicalities that unwittingly impede police operations. Larger items of legislation (such as 0.10 percent BAC illegal per se) did not produce the large increases that had been anticipated but did have marginal effects.

f. Assistance with paperwork, statistics, and other data. Police agencies need encouragement or assistance in this area. Some are not trained, staffed, and organized to produce the appropriate information flow, others have not given priority to DWI cases. In almost all projects, police agencies proved willing and able to devote the necessary attention to this area on an ongoing basis, learning and adapting readily over a period.

g. Liaison with prosecutors and judges. This is an area where strong feelings are accompanied by lack of routine contact, and where regular planning sessions dramatically improve relationships and operations. It is important to note that both judges and police officers find it very difficult to originate contacts, but both groups respond well to intervention from a third party. Solving problems connected with court appearances (especially scheduling) produces substantial dividends in police performance at low cost.

Q. How many man-hours should be spent per arrest?

A. No solid advice can be given on this subject. On the average, the highest productivity was .06 arrests for every patrol man-hour (midnight to 4 a.m.) and the lowest was .008 arrests for every patrol man-hour (8 a.m. to noon). (Patrol man-hours are defined as actual on-street hours, excluding processing, report writing, court appearances, etc.)

TABLE 1-8

OPERATING PROCEDURES OF SPECIAL ENFORCEMENT UNITS

ASAP	Primarily one-man units	Primarily two-man units	Mixed	Cooperative arrest procedures used	Rotating saturation strategy used
Albuquerque			X		Yes
Charlotte					
Denver			X	[1]Yes	
Baltimore	X			No	
Boston		X		No	No
Cincinnati	X			Yes	
Columbus, Ga.		Not reported			
Fairfax County, Va.	X			No	
Hennepin County, Minn.		Not reported			
Indianapolis	X				
Kansas City	X				
Lincoln		X		Yes	
New Hampshire		[2]X		Yes	Yes
New Orleans		X		No	
Oklahoma City		X		No	
Phoenix	X				Yes
Portland, Me.			X		
Pulaski County, Ark.	X			No	
Richland County, S.C.	X			No	
San Antonio		X			Yes
South Dakota	X			No	
Tampa	X			No	
Vermont	X			No	
Wichita			X	Yes	
Delaware		X			
Idaho	X			No	
Los Angeles County		X			
Puerto Rico		X		No	
Salt Lake City	X			No	
Sioux City		Not reported			

[1]Varied by district within project area.

[2]Often a team of special and regular officers working together.

Productivity was affected by the nature of the traffic flow, drinking hours, public events, allocation of patrol patterns, extent of area patroled, and many other factors that change the number of contacts occurring between patrol officers and drinking drivers that might be subject to arrest. Productivity was also affected by processing activities that increased or decreased the amount of time each officer spent on patrol.

III. Patrol Techniques

Q. What is the best patrol strategy?

A. Two strategies proved most effective in increasing the number of DWI arrests and giving the public the impression of a large police effort: rotating saturation patrols, and the "fishing hole" approach. See Table 1-8 for operating procedures of special enforcement units.

Each project began with its own patrol strategy designed by the local police departments and the project's enforcement coordinator. Initially each project selected a single patrol strategy, but experience stimulated experimentation. The major options were to spread enforcement according to the regular distribution by beats and districts, or to use saturation patrols in subdistricts. Two deployment techniques were used for saturation patrols: rotating saturation by patrols in carefully selected subdistricts, and concentration on the most "productive" areas (the fishing-hole technique).

The results of the various strategies were mixed. Deployment of the special enforcement units according to regular district patrols diluted their strength and impact. Productivity and morale both declined in situations where units had to be assigned to quiet areas. Some police departments nonetheless preferred this strategy on the grounds that the presence of police acted as a deterrent to other crimes.

The "fishing-hole" strategy generally increased the number of arrests. In this strategy, officers are allowed to gravitate to those areas likely to be most productive. This was determined on the basis of previous experience, location of drinking establishments, driving patterns, and accident experience. (The practice of "sitting in" on bars, thus discouraging drinkers from driving with an illegal blood alcohol level, was tested by some patrols and proved politically unacceptable.) As well as increasing arrests, the "fishing hole" technique seemed to convince the public that patrols were operating in a somewhat larger area than was the case. For example, reports were received of drinking drivers as a group adopting different routes to avoid the patrols. The disadvantages of the strategy are that: it concentrates resources in a relatively small area or areas; it can lead to political problems if operations are concentrated in ethnic areas; and it reduces the likelihood of achieving a jurisdiction-wide impact.

A formalized strategy of rotating saturation seems best on the whole. It was tested by approximately one-third of the projects. It holds the potential of achieving jurisdiction-wide impact, but its effectiveness depends on the care with which saturation areas are selected—on the size of the saturation area and the frequency of rotation. Improperly designed, the technique may reduce the likelihood of arrest or cause wide fluctuations in the volume of arrests. The technique offers the invaluable opportunity to evaluate the effects of enforcement. (Some projects conducted such an evaluation during operational extensions.)

Q. Should a special DWI enforcement patrol include two-man units?

A. One-man units operate more cheaply than two-man units, with little decline in productivity or increase in danger. At several projects, experience and cost caused a change from two-man to principally one-man units deployed in special patrol patterns. Two-man units are not essential. Originally, ASAP special enforcement patrols consisted of one-man units or a mixture of one-man and two-man units. The trend over time was to switch primarily to one-man units. The main purpose for two-man units was to protect the officers in the hours and areas of a high incidence of crime. Training and morale were other important considerations. Protection of officers became less critical with the use of car-screens, back/up units at traffic stops, and the maintenance of several patrol units in close proximity. One-man units were particularly satisfactory for selective enforcement by saturation patrols. It was also found that patrols emphasizing DWI enforcement used different patrol techniques from those conducting general crime enforcement. In addition, budget problems caused most police departments to review the cost-benefits of one-man versus two-man units, with opinion favoring the one-man units.

Q. Should we use marked or unmarked patrol cars?

A. Subjective judgement is that marked cars have a greater deterrent effect, but the difference in productivity and deterrence between marked and unmarked cars was not scientifically tested by any project.

Most ASAP enforcement vehicles were marked like regular patrol vehicles, and some projects used additional identifying decals (e.g., "alcohol enforcement unit"). The cars of the unit supervisors were usually unmarked, but arrests by supervisors are rare. Three projects used unmarked vehicles. One of these mixed marked and unmarked vehicles but did not measure the differential in

productivity or deterrence. One project changed from marked to unmarked cars to increase arrests because the geography was such that marked cars were identifiable under all conditions. This jurisdiction continues to use unmarked cars in the interest of greater productivity, but previous research suggests that decreased visibility would reduce the deterrence effect of the special enforcement unit.

Since no project tested the differences between marked and unmarked cars either for productivity or deterrence, it seems worthwhile to test the question on a limited scale.

Q. Are roadblocks a good device?

A. On the whole, no. Six projects used roadblocks for various reasons. New Orleans and South Dakota found them not to be cost-effective in terms of the number of arrests for DWI, and South Dakota reported that most of the team's time was spent on other than DWI offenses. However, there is some feeling that a carefully tailored roadblock may be cost-effective, may increase deterrence, and may increase public education. The state-of-the-art and cost-effectiveness indicate the need for a scientific approach if roadblocks are to be used.

Q. Are special units to detect suspended or revoked drivers worthwhile?

A. No. Several projects (including South Dakota and Richland County, South Carolina) used small special units to determine whether persons with suspended or revoked licenses due to a DWI offense were still driving. All of these projects canceled the effort because of poor cost-effectiveness. Oklahoma City found it more productive to convert its special unit to serving bench warrants designed to assure appearance in court, and jurisdictions with a problem in this area might well try this tactic.

IV. Training

Q. Is specialized training worthwhile?

A. Definitely. Specialized training for patrol officers in DWI detection, apprehension, and processing results in a significant increase in DWI arrests. Recurring training and replacement training for special DWI enforcement unit personnel is essential. Support personnel should be trained to perform functions that enable patrol officers to return to the street rapidly.

All projects provided special training for officers assigned to the special enforcement unit, and many projects provided training for most regular officers. Up to forty hours of extra training were provided. Many projects also trained selected officers in breath-testing procedures (requiring a further forty hours for certification). At least one project included training in the drawing of blood samples. Some projects provided recurring training on a limited basis for veteran officers, others trained replacement officers specially, and some provided both replacement and recurring training. Training money was universally reported to have been well spent.

The most basic and important training was in the detection of DWI. Most projects found that officers needed training in neglected skills and new areas. NHTSA-generated materials were adapted for local use. Further training in methods of reducing time spent on processing was necessary. More extensive training included evidentiary matters, giving testimony, the physiological effects of alcohol, and controlled experiments ("drink-ins") to make BAC levels personally meaningful.

Recurring training (through roll-call training or at periodic refresher courses) was important because the initially high levels of patrol activity at most projects declined and then stabilized according to the length of time officers were assigned to the special enforcement unit. Further, turnover in both overtime and full-time units was high enough in all areas to require replacement training, which at the same time could be offered economically to veteran officers. Most projects found that police agencies preferred to create a pool of trained officers for temporary assignment to the special DWI enforcement unit. This meant providing refresher and replacement training by increments.

The amount of training appropriate for a given jurisdiction will therefore be determined by local factors: the number of officers to be assigned, their permanency in the special DWI enforcement unit, limitations on funds, turnover, the number of new officers, the use of assignments by rotation, the applicability of nationally developed materials, etc. However, all the projects recommend close and *continuing* attention to training, since it is highly cost-effective in terms of generating more and better arrests.

Q. What kind of training will most improve police performance?

A. First, officers selected for special DWI enforcement patrols should be carefully screened for past DWI productivity and for their ability to deal well with the public. Under no circumstance should assignment to the DWI enforcement unit be used as a punishment, rather as a reward.

Special training in the detection, apprehension, and processing of DWI offenders increases arrest-rates for both special patrol units and regular patrol units,

especially if it is accompanied by a favorable management attitude. The optimal training period depends on local conditions, and can vary from four to eight hours. NHTSA has developed new curricula in these areas.

Replacement training should be conducted at least annually. Recurring or refresher training (such as at roll-call or at other limited times) will improve the operations of most officers. Thus training in this subject should be a routine part of both basic officer training and refresher training programs.

Training technicians to operate chemical-test equipment increases the amount of time officers spend on patrol and improves the degree of technical proficiency. Training patrol officers to give chemical tests may also improve the arrest and processing of DWIs.

Q. What are the most and least productive ways of using specially trained DWI enforcement officers?

A. Detection and apprehension should occupy as much of a specially trained officer's time as possible. Time spent on processing should be minimized.

Specially trained police officers were used in very different ways at different sites, though all were used for detection, apprehension, and processing. Many projects experimented with ways to reduce the time spent by patrol officers on processing. This time can be reduced significantly by minimizing report requirements, providing help with chemical testing, and reassigning the function of transporting the arrested person.

Productivity seems to decrease if patrol officers spend a lot of time processing cases. Almost all projects reduced the processing time per case by at least one hour from pre-project levels. (One project reported an increase, attributed to new laws and report requirements.) Estimated average processing time varied from a low of 25 minutes in Vermont to a high of two hours in Cinicinnati and Pulaski County, Arkansas. The amount of time spent on processing varied according to such factors as geography, transport (of the suspect and of his vehicle), field sobriety tests, legal requirements, staffing patterns, etc.

Two techniques for reducing the amount of processing done by patrol officers were popular. Seven projects used mobile or semi-mobile facilities, which were (a) closer to the site of an arrest than a central testing facility, and/or (b) enabled someone other than the arresting officer to give the chemical tests.

Several sites also used assisting officers, breath test vans, field supervisors, or special drivers to transport offenders, allowing the arresting officer to return to patrol.

All projects funded additional positions to help administer chemical tests. In most jurisdictions, chemical testing was done by both regular officer and special project operations. Most projects directed special ASAP officers to concentrate on processing only their own cases, but in some projects e.g., Cincinnati, ASAP officers helped regular patrol officers process their chemical testing.

V. Equipment

Q. What principles should we use when deciding between different equipment purchases? (See Table 1-9 for use of special equipment).

A. The sole rationale for purchasing equipment is the rapid, efficient, and effective detection, apprehesion, processing, and prosecution of DWI cases. Some equipment purchases that meet the requirement:

a. modern chemical test equipment in sufficient numbers to match projected demands;

b. mobile vans, if the size of the jurisdiction or the organization of the police agency shows them to be cost-effective;

c. screening breath testers where permitted by law;

d. audiotape under limited use for complex case processing;

e. certification of chemical test operators in large numbers where projected processing needs are high;

f. alteration of chemical-test facilities to ensure ease of processing; and

g. elmination or consolidation of forms and other administrative requirements.

Q. What kinds of chemical-test equipment are most useful?

A. The most useful equipment is that which is "automatic," i.e. which is not perceived as susceptible to tampering by officers during tests and which preserves a permanent, automatic record of results.

Most projects needed extra equipment to handle the caseload, and during the period of project operations, a new generation of equipment was tested—varying from very simple devices to elaborate laboratory equipment. Some projects fulfilled existing State requirements by their purchases, while others acted as test sites for new equipment.

TABLE 1-9

REPORTED USE OF SPECIAL EQUIPMENT ON A CONTINUING, REGULAR BASIS

ASAP	Field video	Station video available		Audio	PBT[1] used at roadside	Mobile vans available	
		Used	Not Used			Used	Not used
Albuquerque	X	X			X		
Charlotte						X	
Denver		X					
Boston			Not reported				
Baltimore							
Cincinnati			X				
Columbus, Ga.					X		
Fairfax County, Va.			X			X	
Hennepin County, Minn.					X	X	
Indianapolis						X	
Kansas City							
Lincoln			X				
New Hampshire							
New Orleans			X			X	
Oklahoma City						X	
Phoenix							
Portland, Me.				X			
Pulaski County, Ark.							
Richland County, S.C.							
San Antonio			X				X
South Dakota							
Tampa							
Vermont			X	X	[2] [3]X		X
Wichita							
Delaware			X				
Idaho					[3]X		
Los Angeles County	X						
Puerto Rico							
Salt Lake City			X	X			
Sioux City			X	X			

[1]PBT = portable breath tester.
[2]Roadside breath sample collection has replaced the use of mobile vans.
[3]MOBAT unit, does not give immediate reading.

The most popular and desirable new equipment was the breath-test instruments based on infra-red or gas chromatography, although they were significantly more expensive than older equipment. They were popular because they provide (a) faster tests; (b) a tamperproof record of results; and (c) a general quality of evidence which prosecuting attorneys prefer. These new instruments seemed to fulfill the desire for greater reputability in chemical testing, including the quality of results and freedom from alteration, interpretation, or error on the part of arresting officers.

Q. Are portable or "screening" breath-testers worthwhile?

A. Yes. They are a significant advance over the usual psychomotor tests for impairment.

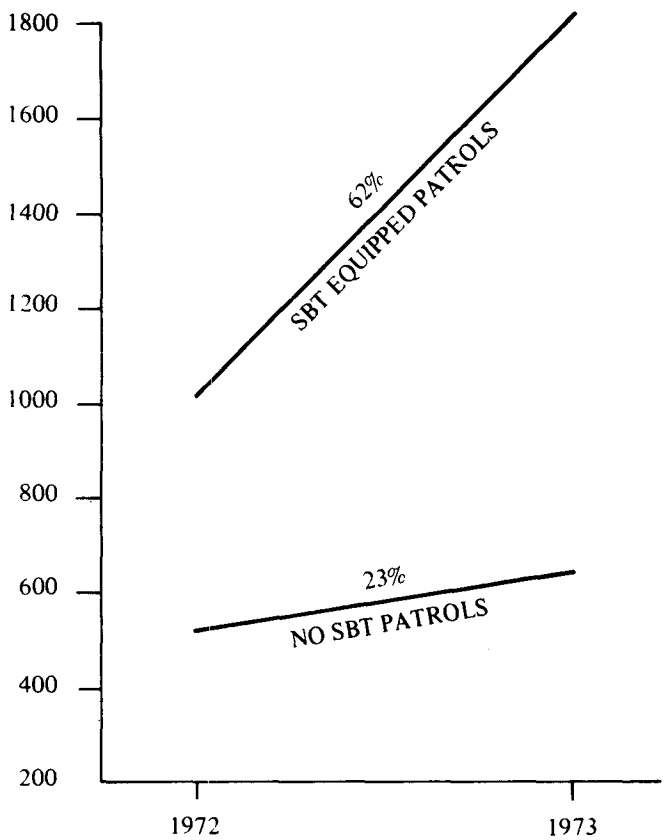
The newly developed screening breath-testers (SBT) were used at several sites and were reported everywhere to be superior to the traditional psychomotor tests. A study in Los Angeles showed that the psychomotor tests missed at least 28 percent of the persons above the presumptive limit

(0.10 percent BAC). This was determined by drivers who were stopped and then released because they passed the psychomotor tests, but who then voluntarily gave a breath sample.

One site (Hennepin County, Minnesota) conducted a full field evaluation of the SBT—a full report is available—and concluded that the routine use of screening breath-testers can increase the number of impaired drivers detected and preclude the release of people indicated by psychomotor tests to be borderline. For example, in Minnesota the average BAC was 0.18 percent for arrests where the SBT was not used, and 0.14 percent for those where the SBT was used. In other words, when 478 persons were given both balance tests and SBT tests, persons failed the SBT test although they were rated good or fair on the balance test. Minnesota results also suggest that SBTs increase the volume of arrests, over and above the increase generated by special detection training. Officers without SBTs increased arrests 23 percent in one year, while those with SBTs increased arrests 62 percent in the same time. See Figure 1-2.

FIGURE 1-2

HENNEPIN CO. SBT FIELD TEST— DWI ARREST RATES 1972-1973



Projects reported that the SBTs were also good training devices, assisting and encouraging officers to detect offenders whom they might otherwise have released, and that they were useful even to experienced officers, who tended to use them only in borderline cases. There is no evidence that the SBTs reduce processing time. However, the projects believed that they were a great help in increasing the number of arrests when used routinely.

Q. Should we invest in videotape equipment?

A. Probably not. The idea of using videotape to record DWI behavior during violations, apprehension, and testing is attractive, but experiments at the projects showed that it is not useful.

Several projects used videotape equipment for various purposes. None found that the benefits outweighed the difficulties. The sites first tested videotape under field conditions to film all or some of the process of detection, apprehension, and processing of a DWI offender, with the prospect of using the tape in evidence. For this purpose, equipment was mounted either in patrol cars or mobile vans. Only Los Angeles was able to regularly produce materials of sufficient quality. Detection at night was a universal problem, and videotaping apprehension and processing also suffered from drawbacks in ambient or transient lighting, camera angles, adequate control of the suspect's performance, officer safety during filming, etc. Good tapes were produced on occasion, but the common opinion was that their number didn't justify the trouble. Other problems developed from the need to use two-man patrols when filming, technical problems with equipment, administrative controls, chain of evidence requirements, and the composure of the driver under test conditions. The major reported dividend from videotape was that it reduced aggressive behavior by both suspects and police, but since the cheaper and easier audiotape had the same effect, this benefit is marginal. Thus the almost universal opinion is that using videotape in the field is not a good idea.

Use of videotape in the station won more support. If the technical conditions were bad, videotape was useless, but with trained operators, studio lighting, a quiet environment, and adequate administrative facilities for logging, recording, and storing the tape (pending disposition of the case), quality sufficient for the uses of the court could be achieved. Cost, however, was high, especially when a tape had to be retained under special conditions. And many jurisdictions reported that the tapes can work to the disadvantage of the officer because of the "composure" effect. If the suspect retains his composure and performs relatively well on videotape, jurors tend to accept this as superior evidence to chemical-test results and officer testimony.

Videotapes were also used in evidence for the judge and/or jury, and as tools for inducing a defendant to admit his guilt. No project formally measured their usefulness in either situation. Subjective reports were that a "good" tape (showing the suspect's impairment) is useful in both circumstances, while a "bad" tape is positively harmful since it has to be available for display by the defense. There is no objective evidence as to the power of videotape in winning cases. It seems more useful at pre-trial stages than at trial, but at best it is only marginally superior to other evidence.

All projects encountered such significant problems with cost, technicalities, or administration that all abandoned videotape as a major tool for DWI cases. Good quality tapes remain very useful for education, but field conditions and evidentiary requirements mitigate against their operational effectiveness.

Q. Should we use audiotape equipment?

A. Probably yes. Audiotape appears to be a useful and inexpensive method of aiding in case-preparation.

Several projects used audiotape at any stage of the process, from the initial cause for the stop through the administration of the chemical test. Some projects used the tape throughout, others for recording only the constitutional requirements. Where the rules for maintaining the chain of evidence were not followed, officers used the tapes for case-preparation only, e.g., to refresh their memories. Administrative and legal requirements can make the use of audiotape less desirable. The main benefits of audiotape reported by the sites were (a) a reduction in aggressive behavior by both the officer and the suspect; (b) evidence that the officer was properly giving the necessary constitutional warnings and other instructions; and (c) as an aid to the officer's recollection.

Q. Should we purchase a mobile testing/booking van?

A. Mobile testing/booking vans provide valuable help to special DWI enforcement units in certain jurisdictions, at least on an interim basis. Vans are useful in saving a patrol officer's time, but they may not be cost-effective.

Five projects used mobile vans or mobile homes for testing and booking. The mobile homes acted as mobile booking stations, with more than one testing station, facilities for videotape, and areas for interviewing, processing, and even temporary custody. They were placed in a single location for the duration of a shift or several shifts. The mobile vans, smaller, and more mobile, could move to the site of an arrest. They usually contained a single testing station and a small area for interviewing and processing. They proved too small for videotape. Since vans are less stable than mobile homes, several projects reported problems, for example, in calibration of breath-test equipment and in the use of gas chromatographs and simpler chemical-test equipment. Vans must also be supported by some method for transporting the arrested person to jail.

Both mobile homes and vans, especially vans, performed a valuable service in all projects, particularly (a) where decentralized testing facilities were needed; (b) in large areas such as Oklahoma City or Fairfax County, Virginia; (c) where the main testing station needed an overflow capacity; or (d) where rotating saturation patrols emphasized an outlying area. They effectively supported alcohol emphasis patrols. They reduced transport time and provided for overflow nights with a high incidence of arrests. They represented an interim solution to processing problems awaiting such longer term solutions as more officers certified in chemical testing, expansion of a central testing facility, or decentralized testing/booking facilities.

In sum, vans proved useful in increasing the efficiency of officers, though in some cases their costs exceeded their benefits in terms of increased arrests.

II Adjudication

Background

The ASAP countermeasures in the judicial area were among the most successful and innovative of all program countermeasures. They have proven so popular at the local level that the "ASAP concept" has become influential even in areas where there was no project. ASAP was the first nationwide program sponsored by the Federal Government to intervene substantially in the adjudication and sentencing patterns of the lower courts, and it was the first time that the highway safety profession had interacted with the courts on a sustained basis. The result seems to have been a permanent change in both the courts and the highway safety profession.

When the program started in 1970, no one anticipated the amount of work that would have to be done to create a project which used the lower courts as key agents for dealing with both alcoholism and highway safety. A NHTSA survey showed very few court-based programs for drinking drivers, no comprehensive programs, no "model" systems, no standard court procedures, and very little literature concerning prior attempts. The program began from scratch, developing guidelines, procedures, and instruments, but the main effort came from the projects and the lower courts themselves. Each jurisdiction had to experiment. The projects were therefore well into their operational phase before a set of exemplary procedures and systems began to emerge.

Two major problems faced the courts and their evaluation:

- A lack of methods to handle a greatly increased caseload efficiently, effectively, and fairly.
- The lack of design, implementation, and operation of systems for making and monitoring client referrals. (See Rehabilitation Chapter.)

A more specific list of problems includes the following: caseload; backlogs; shortage of judges, prosecutors, investigators, and probation officers; dislike for mandatory penalties; ineffectiveness of statutory penalities; scofflaws; a belief that suspension or revocation of a Driver's License is an extremely harsh penalty; assembly-line and revolving door tribunals; jury attitudes; differences between rural and urban attitudes; inadequate training of judges and prosecutors; dominance of the defense bar; possible damage to defendant's rights; inequities among jurisdictions; inconsistency of decisions from case to case; disputes in authority between agencies or branches (especially courts and driver licensing agencies); failure of the courts to obey statutes such as mandatory sentences for DWI; failures in the flow of information from agency to agency; overuse or underuse of prosecutorial or judicial discretion; absence of simple, valid criteria for making decisions; failure to provide adequate evaluation of efficiency or effectiveness; and inadequate or inaccurate records systems.

Faced with these kinds of problems, the ASAP projects could scarcely try anything dramatically new, except for organizing methods for referring offenders to education and rehabilitation. Their effort had to go into bolstering the existing system, trying to make it work fairly, efficiently, and effectively. The Nation's lower courts had been neglected so long that they needed "patching" even to bring them up to minimal performance levels, i.e., to be able to process cases equitably within a reasonable time. The projects had to provide the courts with personnel, support, and equipment. They had to initiate concepts, and establish liaison with other units of the criminal justice system and with the treatment system. They had to see that "schools" were set up and that rehabilitation agencies were available. They had to sort out the data and information flow and educate personnel in both monitoring and evaluation. These endeavors took two or three years, and in some projects were never completed.

It was clear before the ASAP projects were started that the courts did not care much about drinking driving cases and that the highway safety profession knew little about the use of the court system to control drinking drivers. As a result of the cooperation brought about by the ASAPs, both the courts and the highway safety profession made great strides in knowledge and operations. Within five years, the projects created the present state-of-the-art for handling drinking driving cases. Their techniques and

instruments are spreading rapidly throughout other court systems, and the courts have become among the strongest supporters of the ASAP concept. As an addendum, it should be emphasized that change within the judicial system is inevitably and properly slow. Courts are a complex mechanism—sensitive to outside pressures, cautious, reluctant to face the ramifications of any major change. They cannot be improved by command. They do not have to respond to the desires of the executive branch nor are they used to responding to the Federal government. Court countermeasures are necessarily local in nature and are implemented by choice, regardless of the desires of the national program.

Approach

The projects identified the most important needs of their local courts as:

- improved procedures
- extra resources
- training and motivation

Unused to working with persons outside the criminal justice system, judges and prosecutors needed encouragement and knowledge on how to work with support staff and rehabilitation personnel, how to review and improve the effectiveness of their processing of DWI cases, and how to use education and rehabilitation programs appropriately. The program as a whole needed to know much more about how to make court actions more efficient and effective, working always with the local autonomy of court systems, prosecutors, and judges.

The first approach used by most projects was to create a textbook model of the court process: the best evidence for every case to be used in trials; prosecution for the original DWI charge in all cases; conviction for the guilty; and the imposition of statutory sanctions, plus a referral where necessary. Prosecution was to be improved in order to "win" more trials and "presentence" information was to be collected by probation officers.

The textbook approach was only partially effective, and almost all projects quickly turned to the design of systems and methods which the courts themselves wanted, regardless of textbook ideas. The three main reasons for this change were:

I. Caseload. As arrests increased swiftly, the courts could not process them, certainly not in any textbook manner. They quickly turned to their traditional methods of reducing caseload by plea bargaining, sentence or charge-reduction, and even dismissals.

II. Absence of trials. Although the outcome of full trials based on the evidence is a powerful influence on patterns developed by prosecutors and judges (who do not want to spend the necessary time and money on such trials), it turned out that such trials amounted to 10 percent or less of the total DWI cases in almost all jurisdictions. Almost everyone wanted to avoid trials, even the defendants, who would cooperate with the court system and not ask for a trial if given some incentive.

III. Effect of legislated penalties. Most courts regarded legislated penalties for DWI as too harsh; they exercised much ingenuity to avoid imposing the sanctions chosen by legislatures on all offenders, causing the growth of nonstandard court systems. The projects also found that most courts of limited jurisdiction lacked basic technical capabilities: recordkeeping was inadequate for either information flow or project data; scheduling practices were haphazard; and improvisation or unstated principles were more popular than formal policy.

The program therefore began to concentrate on a more realistic set of goals for the courts:

- achievement of a "satisfactory outcome" (not necessarily a formal conviction for the original charge) in most cases;
- provisions for fair, speedy, and efficient case-processing;
- effective recordkeeping and information flow.

As these objectives began to be fulfilled, the projects could respond to more complex problems. The special nature of the offender population, for instance, received more consideration as courts designed a special system for responding to recidivists and multiple offenders. They realized that these offenders, if addicted, were not also obedient. Or again, the issue of the appropriate amount of resources to devote to such cases became paramount as the expiration date for special Federal funds drew near, so that many highly efficient and cost-effective methods for performing the same functions began to appear, e.g. group intake, scheduling appearances, and very brief presentence reports. And significantly, several courts chose to design a system based on prosecutorial power, developing quasi-diversionary procedures based on plea bargaining and charge-reduction, as it became clear that this was the best place to offer an incentive to accept a referral to education or rehabilitation. The conept of the "earned charge reduction" became a basic element in many projects as the rehabilitation alternative was strongly accepted.

Most projects managed to increase the involvement of judges and prosecutors in the design and planning of their case-processing system as the dividends of such a system became clear. In many jurisdictions the courts had taken

the lead from the project. Especially effective in this respect were regular system planning sessions conducted by the project, usually designed and run by an outside contractor with special expertise.

Results

The projects certainly showed that cooperation between the courts and rehabilitation agencies was feasible and mutually beneficial. Without the possibility of a referral, there would have been little reason for the courts to change. Without the criminal justice system, rehabilitation agencies would have been unable to attract and retain drinking drivers as clients. Programs of voluntary referral were shown (as before) to be only marginally successful in terms of numbers and duration of contact—an extremely significant finding for the alcoholism treatment professional's. Court-coerced referrals, on the other hand, were associated with both increased numbers in rehabilitation, increased numbers processed through the courts, and increased arrest-rates.

Once a court system was adequately staffed and organized, it proved able (regardless of size or caseload) to handle the "health/legal" approach to DWI offenders. While some judges or treatment agencies resisted the idea of court coerced rehabilitation, all were able to implement it. In fact, they did so well that the ASAP approach has become a model for handling all alcohol-related cases.

Success in these initiatives often required a modification of criminal justice and highway safety attitudes. For example, the traditional desire for a high conviction rate began to yield to a willingness to settle for a high rate of "satisfactory outcomes," i.e. compliance with court instructions, including a referral program. All offenders received some form of criminal justice penalty, but the penalties were not as severe as those set down by statute. Courts also began to share responsibility for operations with outside agencies in a manner to which they were not accustomed, and the dividends were soon apparent to all. The courts had to change their attitudes about the purpose of the penalties they imposed. Instead of being an end in themselves, bearing the whole weight of deterrence, these penalties added the function of inducing referrals and maintaining compliance. Fines, jail sentences, license revocations, and conviction records became part of the "carrot and stick" approach typical of the projects' attitudes toward offenders. They seemed necessary to the satisfactory functioning of the system, and they were now used with a clear purpose in mind. The courts found themselves strengthened rather than weakened by the addition of rehabilitative sanctions, since their criminal sanctions now had a precise function.

Though initially skeptical, the courts in most jurisdictions became strong advocates of the projects. Even after Federal funds were no longer available, the courts have tended to maintain the new procedures and functions at their own expense. The basic concepts have also spread to other jurisdictions and are being taught by both of the national organizations for judicial education—the American Academy of Judicial Education and the National College of the State Judiciary. Whereas, in 1971, it was band to obtain court cooperation on such matters as presentence investigation, probation, referrals to rehabilitation, standardized plea bargaining procedures, and court policies regarding DWI cases, by 1976 all projects were able to shift attention from introducing these techniques to perfecting them. The courts that cooperated with the projects are now, handling greatly increased numbers of DWI cases at little or not increased cost. The problem now is less one of winning their cooperation than showing them how to do things correctly.

Judges and prosecutors have come to regard three areas of decision making as especially impotant:

I. Prosecution of DWI cases involving "low" BAC levels. Previously anything below 0.20 percent was regarded as "low," and anything below 0.15 percent as worthy of immediate plea bargaining or dismissal. Though both standards are still used, there has been a measurable tendency to prosecute at levels as low as 0.05 percent.

II. Establishment of drinker-type classification systems (problem drinker vs. non-problem) for referral purposes. This concept was introduced by the program and has become a universal criterion for making dispositions at project sites.

III. Use of varying amounts of punitive sanctions for different purposes. Where legislated penalties were usually regarded as ineffective and harsh, they are now seen as having a purpose in inducing compliance with the court's orders.

The projects discovered two kinds of assistance to the judiciary that were particularly cost-effective. First, they found that investment in better records, better records systems, and the design of tracking systems is essential and productive. Each component of the criminal justice system keeps records for its own purposes, with the result that there is much incompleteness and duplication. The way the records system is set up can be changed economically. Second, the education of judges and prosecutors proved highly cost-effective. The education provded was only partly traditional (lectures, etc.). More important is engaging the judges in the management of the system by having them help to design its objectives and operations in cooperation with other agencies.

Most courts also require help from project staff to handle their increased caseloads efficiently. The projects used an infusion of funds at the start to provide them with support staff, especially investigators and probation officers. The per-case cost was not high, and it dropped as the

system's efficiency improved. By the end of the ASAP projects, an estimated three-quarters of the project-related courts were handling increased caseloads more quickly and inexpensively than the smaller caseloads they had had in the past.

The projects necessarily concentrated on increasing efficiency and fairness, rather than effectiveness; effectiveness was examined only in terms of education /rehabilitation—part of the courts' sanctions rather than all of the courts' actions. ASAP therefore produced no information about the overall highway safety benefits of handling drinking driving cases through the courts, but it did advance matters to the point where such research could be carried out. New "model" systems had been developed to the point where they could be usefully described and analyzed. New court procedures (as in evidentiary issues or the scheduling of witnesses) received their first field testing. Projects were beginning to explore issues that are closely related to effectiveness.

For example, is probation an effective way to deal with drinking drivers, and if so, what kind of probation? Is the effect of severe sanctions mandated by legislation beneficial? Is plea bargaining a desirable technique for disposing of cases? What mixture of sanctions should be applied to what type of offender? There are now general answers to these questions, particularly in terms of efficiency, and answers concerning effectiveness can be sought. One way to view the significance of these projects is to note that prior to 1971, question such as these had never even been asked, and prior to 1975 they could not have been answered. The projects succeeded in identifying the reasons that traditional court systems were not working. They solved many enduring problems and brought a level of efficiency to the courts that had not previously been attained. They laid the foundation for a reasonably scientific approach to court operations. Also, they provided valuable guidance on what not to do. Needs have been identified and preliminary solutions developed.

The following major problems require further study:

- the conflict between plea bargaining and the integrity of records systems;
- techniques for lowering the cost of categorizing drinkers by type;
- effective use of probationary control;
- dissemination of procedures from one court to the other, by means of professional standards and education;
- development of a "model" system and perhaps a model act dealing with DWI adjudication.

Although the health/legal concept has proven very popular, it needs considerable refinement in terms of cost-effectiveness. It needs accurate dissemination. Many courts are rushing into the area without adequate technical knowledge, and this will render the concept ineffective because of dilution. Experience strongly suggests that the courts will continue to need help and management from highway safety interests in designing and initially operating their systems. Highway safety professionals should be ready with both general guidelines and special technical assistance, and with seed-money where necessary. The courts do not function as well without outside force that has the interests of highway safety at heart and the ability to win the full cooperation of other agencies in the system. To summarize, there are two primary reasons for highway-safety professionals to continue their interest in working with the legal system:

a. The great popularity of the ASAP concept with both judges and prosecutors nationwide;

b. The need for adequate technical and management expertise to keep the lower courts functioning in a way that maximizes the concept's benefits.

Finding and Recommendations

The following questions are those most frequently asked by persons beginning work on a project. The answers represent a consensus from the experience of the projects.

I. Setting Up an Adjudication/Referral System

Q. What is the best system for adjudicating DWI cases?

A. No single answer to this question will apply to all jurisdictions. All good systems are fair, efficient, and effective. They dispose of a case rapidly, well under the 90 days required by many statutes. They collect sufficient information about each individual to create an appropriate sentence, especially if a referral is in question. Their record systems are accurate, complete, and economical, and they are maintained in such a way as to be useful to individuals outside the court or outside the locality. They aim at individualized dispositions rather than routine processing. They monitor their dispositions and evaluate effectiveness as a whole and in individual cases.

Adjudication systems are produced jointly by attitudes of the defense bar, the prosecution, and the judiciary. The worst systems are those run by the defense bar (though defense cooperation is always necessary). Systems based on offering an incentive of some kind are possibly better run by prosecutors, and those based on coercion should be

run by judges. All systems should be monitored by the defense bar to ensure that the defendant's rights are protected.

No two adjudication systems supported by the projects were precisely the same. The following are three examples of systems.

THE TRADITIONAL SYSTEM

This system takes elaborate precautions to protect the rights of the defendant, treating his case with the same thoroughness as that of a felon.

It includes several court appearances, full investigation prior to sentencing, and a direct order to cooperate with a referral to rehabilitation.

In Puerto Rico, for example, an arrested driver is immediately taken before a magistrate for a probable cause hearing. If probable cause is proven, the driver is bound over to the Superior Court and released on bail. A prosecutor then investigates the case, takes testimony, prepares a case, and files a bill of information, whereupon arraignment is scheduled. If the defendant pleads not guilty, he is scheduled for trial, and plea bargaining is not encouraged. Upon a plea of guilty or a guilty verdict from judge or jury, the judge makes a finding of guilt and orders a presentence investigation. This consists of a full diagnostic and background investigation filed by a probation officer in a lengthy presentence investigation report. At a sentencing hearing, the judge formally pronounces sentence, including a referral to rehabilitation or education. Drivers who successfully complete this program may apply to have their licenses restored. Problem drinkers are placed on six month's supervised probation, during which time they see a probation officer regularly and attend a therapy program. Their attendance in the program is ensured by the judge's power to carry out a suspended jail sentence.

Because this system is lengthy, slow, and expensive, it is used in very few jurisdictions.

THE PRE-TRIAL SYSTEM

Pre-trial systems are similar to diversionary systems. Based on open, formalized plea bargaining, they reward cooperation with an "earned charge reduction" or a final sentence reduction.

For example, Phoenix developed a system known as PACT, or Prosecution Alternative to Court Trial. At arraignment the judge encourages all defendants to plead not guilty, so that they may participate in PACT. Upon a plea of not guilty, the defendant is given a date on which to reappear for (a) a PACT orientation session, and, on the same day (b) a pre-trial disposition conference (PDC). This will occur between 14 and 21 days of arraignment. Within that period the prosecutor will determine if the defendant's record makes him eligible for PACT. If so, the prosecutor will offer a plea bargain by inserting a PACT Agreement Form with proposed charges and sanctions into the defendant's file, which is then kept in the PACT orientation office. Decisions as to plea bargain offers are routine and nondiscretionary.

The PACT staff works for the prosecutors in a manner similar to that of presentence investigators. At the orientation session, where a group of defendants will appear, PACT case coordinators administer an alcohol screening questionnaire. A film explains the PACT process while the questionnaires are scored and rehabilitation assignments determined by the case coordinators, who then meet individually with the defendants to explain the terms of the plea agreement. Cooperation saves the defendant from a mandatory jail sentence and, in most cases, from action against the license. He will eventually plead guilty to a lesser offense not related to alcohol. The defendant signs the contract and is given written notice of his rehabilitation assignment and of what will happen if he breaks the agreement.

Whether or not they accept the bargain, all defendants then attend a PDC, where the judge repeats the terms of the agreement, ensures that agreement is voluntary and knowing, and sets a final disposition date within about 60 days. Those who continue to plead not guilty are scheduled for trial, where, if found guilty, they will be convicted on the original charge of DWI, sentenced to a mandatory one day in jail, and ordered under probation to attend the appropriate rehabilitation program. Noncompliance with the PACT agreement also results in trial.

This system was developed in response to an enormous number of requests for trials caused by legislation requiring a mandatory one-day jail sentence. The courts could not conduct the trials within the period required by speedy-trial statutes and chose this system over informal plea bargaining or mass dismissals. The system enabled the courts to increase their caseload while reducing the number of judges and prosecutors involved. It also encouraged more than 90 percent of the defendants to voluntarily accept a referral to rehabilitation. The great weakness of the system is that it fails to result in an official record of conviction for an alcohol-related driving offense.

THE PARAJUDICIAL SYSTEM

Several projects explored the idea of delegating routine pleas and dispositions to parajudicials. These systems were often associated with formalized plea bargaining through a pre-trial disposition hearing. For example, Hennepin County, Minnesota was faced with a large

backlog of cases and public dislike of informal plea bargaining. They implemented a pre-trial disposition system, at which a Judicial Officer presided over a negotiation between defense and prosecution, seeking acceptance of a referral to rehabilitation in exchange for a reduced charge. The referral track was based on a determination of drinking status based on records of this offense and prior offenses, and if the defendant agreed to the bargain, it would then be reviewed and the plea accepted by an official judge. The system guaranteed the judicial presence but did not require time for judges for full-fledged hearings. Judicial Officers were at first private attorneys paid on a daily basis; later they were specially trained project staff.

Although this system eliminated backlog and formalized plea bargaining, the degree to which it delegated judicial sentencing authority created some anxiety among the judges.

Assuming that there was such a thing as an ideal adjudication system, it would still be difficult to encourage local courts to adopt it. Local courts are like living organisms, responding to numerous local, state, and legal pressures on an almost daily basis, working out compromises between what they want to do and what they have to do. The best recommendation about the "best system," therefore, is to have local courts design their own systems on the basis of the available information and according to specific criteria for measuring fairness, efficiency, and effectiveness.

Q. What are the characteristics of a good adjudication system?

A.

- ability to handle a large caseload expeditiously;
- imposition of penalties as promised;
- an alcohol-related driving offense appears on the drinking-driver's record;
- incentives to accept rehabilitation are inherent to the system and/or penalties;
- enough revenues are collected to support most of the sanction system.

Q. What are the important features of a good records system?

A.

- ability to track an individual through all stages, from prior offenses through completion of rehabilitation to subsequent offenses;
- absence of duplication in information-collection—necessary records should be transferred to staff who come in at a later date so that they don't have to be redone;
- accuracy and completeness, including records of actions taken by the court;
- ease of retrieval, including accessibility to authorized personnel from other agencies;
- consistency of terminology, especially for the purpose of neighboring jurisdictions.

Q. How do courts react to legislation requiring a new type of response to drinking drivers?

A. The principal concern of the courts in drinking driving cases is the smoothness of their own operations. The well-being of defendants and society is important, but a secondary consideration. If any new legislation makes their operations more difficult, the courts will respond only partially, spending much effort on allowing room for exceptions, which may quickly become the rule.

Many legislative changes occurred during the duration of the projects, but they often did not have the expected or desired results on the courts. Five categories of legislative change were experienced:

a. Changes in the presumptive level of impairment from 0.15 percent BAC to .10 percent or 0.08 percent. This tended to lead to arrests at lower BACs. but not in significant numbers. The average BAC for a DWI arrest at project sites dropped slightly, to about 0.18 percent BAC. Prosecutors may have been encouraged to drop their standard for plea bargaining from 0.20 percent to 0.15 percent. It is expected that the average BAC for cases prosecuted will drop further as the courts become used to lower BACs, but so far the change has not created the degree of impact desired.

b. Authorization of new methods for evidence-collection, notably pre-arrest breath-testing normally associated with an *illegal per se* BAC level. Although this law had a good effect on lowering average BACs at the time of arrest, and although it resulted in increased arrests at several sites, the law did not have a clearly measurable effect on court practices. Again, this is thought to be a function of the courts' reluctance to change their habits. Further effects may show up later.

c. Changes in mandatory sanctioning requirements, e.g., mandatory jail sentences. Removal or institution of a mandatory jail sentence had definite effects on court

operations. Institution of the penalty meant that the court's calendars were clogged with requests for trials, and they tended to solve the problem by relying more heavily on plea bargaining. Removal of the mandatory jail sentence decreased demands on the calendar and resulted in a higher proportion of guilty pleas. Unfortunately, the projects in which these changes occurred did not measure the unmanaged changes so that there is no statistical basis on which to measure their extent or duration.

d. Introduction of a mandatory presentence investigation. Although this definitely encouraged the courts to conduct presentence investigations, judicial discretion intervened to assure that presentence investigations were not always performed. The influences here were inadequate resources for the caseload, and the resultant problems for the calendar. In several States, there was a tendency to conduct presentence investigations for second offenders rather than first offenders, which is exactly the reverse of what the research suggests to be appropriate.

e. Introduction of the concept of education/rehabilitation as an option in sentencing. This tended to occur after a project had been operating for some time. It was an endeavor to spread the referral concept to courts statewide. Jurisdictions sponsoring such legislation, e.g., California, Massachusetts, Washington, Wisconsin, and Puerto Rico, liked it because it was closely in line with court practices. Warnings began to emerge, however, about its use by the courts to eliminate all traditional penalties and to avoid a presentence investigation, i.e., to use this sanction as a way to move toward decriminalization.

Q. Should we have a special DWI court, DWI judges, and DWI prosecutors?

A. Yes, if warranted by the caseload.

Training, experience, and attitude were the three main determinants of the actions of the court systems, and several projects found that specialists were invaluable for examining the actions of individual components from the viewpoint of the whole system and therefore for helping the whole system to function better. It is extremely difficult to win the cooperation of all judges or all prosecutors, and a specialist will often function more effectively.

Q. What extra staff will be needed and what will be the extra costs?

A. Less than it might seem. An initial investment in some law clerks, secretaries, probation officers, or presentence investigators will be needed to bring some courts up to par. There may have to be an increase in existing staff if there is a very large increase in the number of arrests. However, all projects reported that attention to efficient procedures resulted in far fewer increases in staff and costs than had been anticipated.

Before extra staff is added, existing procedures should be carefully scrutinized and new methods and procedures devised. For example, the procedures and costs for completing a presentence investigation have been reduced to a cost-effective minimum at several projects. The number of court appearances for each case can easily be reduced. By use of group intake and immediate referral, several functions can be performed at the same time. Good clerical staff can handle many functions, e.g., the Mortimer Filkins Questionnaire, which at first seems, to require professionals. Many routine activities may be delegated to less highly paid staff, e.g., referees, judicial officers, or case coordinators.

Cost should be calculated on a per-case basis, and the experience of the projects showed that the per-case cost dropped quickly and substantially, with special gains occurring as arrest-rates soared. User fees also became commonplace, both for the cost of a presentence investigation and for therapeutic and educational modalities. The extra costs of an ASAP-type adjudication system are small.

Many "extra" staff and costs are proper components of the regular budget of a well-functioning court. However, it may be appropriate to use highway safety funds, to introduce and test them. Highway safety funds are better used to pay for the outside expertise required for redesign of court procedures and for training.

II. Running an Adjudiciation/Referral System

Q. How can the court best ensure an offender's cooperation with an education or rehabilitation program?

A. By offering a reward for cooperation and responding clearly to a failure to cooperate.

A number of different types of rewards for cooperation were offered at various sites. At some sites, cooperation earned a reward as large as dismissal or at least reduction of the DWI charge. At others, the reward was eligibility for a restricted license, or a suspended jail sentence, or suspension of all or some of the fine. Whether the reward was large or small, offenders tended to respond to the inducement.

However, the inducement may not continue to serve as a means to ensure cooperation. Dropouts from referral

programs were frequent at first, and all courts found it essential to create a good monitoring system. This involved regular, rapid non-attendance reports from referral agencies, and an efficient system for the court to respond quickly upon notification. At this point, the reminder of the court's presence was usually enough to restore attendance or to uncover the reason for failure to attend, but in a small and crucial number of cases the judges had to be willing to revoke probation and institute the original penalties, now reinforced with mandatory attendance at the program.

Q. Is plea bargaining an acceptable method for processing a large caseload of DWI cases?

A. Yes, as long as it includes the following:

a. It is based on standard, formal criteria and written public policy, rather than on the discretion of individual prosecutors.

b. It results in some record of an alcohol-related driving conviction.

c. Its purpose is to accomplish a satisfactory referral rather than to "soften" the impact of a DWI arrest.

Plea bargaining without these characteristics is definitely NOT recommended.

Many projects used plea bargaining, some as the basis for their adjudication system. This was as effective as systems based on traditional adjudication and appeared to be cheaper. However, no project developed a plea bargaining system that possessed all three of the above characteristics. Normally, plea bargaining serves the purposes of the prosecutors and the defense first, and it is much easier to make the traditional adjudication system meet the objectives of all the other components of the system.

Plea bargaining systems without the above characteristics tend to antagonize the judges, the general public, the police, and the driver licensing authority. They are also undermined because of their weakened ability to identify repeat offenders through accurate records. The projects found weak plea bargaining systems to be almost universal, and they were a major problem in most jurisdictions.

Several states, e.g., Colorado, New York, and Florida, allow plea bargaining to a lesser-included offense, such as Driving with Ability Impaired, which retained the integrity of records without carrying the same degree of punitive sanctions. This alternative is worth examination.

Q. Should all drinking drivers receive a full presentence investigation?

A. No. Each should receive the minimum investigation necessary for the court's purposes.

In most cases, the main pupose of the investigation is to determine if the individual is a problem drinker, as the basis of a disposition which includes a referral to rehabilitation or education. All drinking drivers should be screened in this manner. The guiding principle, however, is to stop collecting information as soon as the basic screening decision has been made.

For instance, all persons with a prior DWI offense may be classified as problem drinkers on the basis of that information alone. For those without a prior record, more information should be collected, notably the BAC at the time of arrest and the results of the Mortimer-Filkins test. (For details, see chapter on Diagnosis, Referral, and Rehabilitation.) Only in very rare cases—at most 5 percent of the total—is a full presentence investigation of the felony type necessary for a screening decision. Approximately half of all cases can be screened without even a personal interview.

A fuller presentence investigation may be required under two circumstances: (1) the judge may want more information for non-referral purposes (e.g. financial circumstances, residence situation); (2) there may be several agencies accepting defendants within the problem drinker classification, and the court may have to choose the particular agency at the time of presentence investigation.

Presentence reports may be very brief. Drinking drivers tend to fall into recognizable categories, and most of the individual differences are not essential to making a disposition. Judges at most projects began with full (two page) presentence reports and gradually shifted to brief notations on case processing forms. Fuller workups can wait until (a) the defendant is placed on full reporting probation, or (b) the treatment agency needs further diagnostic information.

Many projects developed swift, discriminating methods for the presentence investigation process which proved highly cost-effective and enabled them to handle much greater caseloads than had been anticipated. One project, using computerized records, completed screening of more than half of all arrests prior to arraignment.

Q. What degree of probation supervision is necessary with drinking drivers?

A. NHTSA funded demonstration projects are currently

examining this question. Generally speaking, less supervision seems necessary than was thought at first.

Projects used two forms of probation: reporting probation, and summary or nonreporting probation. Nonreporting probation consists of simple monitoring of the arrest records. If someone is arrested for an offense which has violated probationary status, then the probation officers initiate proceedings to revoke probation on the first offense. The objective is to make the court's wishes meaningful and to regain immediate control over the defendant's behavior.

Reporting probation consists of two techniques: phone-ins on a weekly or monthly basis, and visits to the probation officer on a monthly basis. This proved very difficult in light of the numbers of drinking drivers. Phone-in reports tend to become mechanical, though their benefits in maintaining the court's visibility are unknown and may outweigh the mechanistic aspect. Visits and personal interviews can be offered to only a few defendants, and their purpose is unclear if the individual is also in a treatment program.

The projects provide the following advice regarding probation.

a. If the probation officer counsels the client, he should be trained in alcoholism counseling.

b. If the client is in a treatment program, the probation officer should restrict himself to monitoring the suitability of the program and matters not connected directly with problem drinking.

c. Non-reporting probation is sufficient for persons classified as nonproblem drinkers.

Q. What was the single greatest problem in the adjudication of DWI cases?

A. The fact that a person identified as a drinking driver failed to get a record for an alcohol-related offense.

Although such matters as caseload, discrimination against minority groups, continuances, inconsistency, problems with the court calendar, low conviction rates at trial, and others at first seemed insurmountable, all these proved solvable or a least tractable. In a number of sites, however, the issue of a record for an alcohol-related offense remained the greatest stumbling block. The consequences of a conviction record are considerable (insurance, license, job eligibility, job loss) and are taken into account by the courts in almost all areas. They are of paramount importance to the defense bar which uses them to put pressure on the courts. On the other hand, the absence of a record undermines the whole system. Prosecutors cannot prosecute for second offense DWI, presentence investigators wrongly classify people as problem drinkers or non-problem drinkers, and persons are subjected to inappropriate sanctions.

Most projects solved the dilemma by improvising, for example keeping an "alcohol identifier" on the record that can be understood by the local jurisdiction but not by outsiders. Several states (Colorado, New York, Florida) used a lesser-included offense (Driving with Ability Impaired) as plea-down charge, which seemed to work better. Many courts, however, totally ignored the needs of the record system and allowed prosecutors and police to proceed with substitute charges, or used such techniques as withholding judgement or expungement to eliminate a record of conviction for the alcohol-related offense.

III. Using Sanctions Purposefully

Q. What are the most effective sanctions?

A. No sanction works with all offenders, but all sanctions work with some offenders. All the projects advocated use of a *package* of sanctions, varied to suit the particular dynamics of different kinds of offenders. The packages will differ according to local custom. Sanctions also have different purposes, and they should be selected to serve a purpose rather than to demonstrate the court's routine attitude.

Recommendations from the projects as to the nature of the right package of sanctions include the following:

a. All courts should have the power to impose or invoke traditional sanctions (jail, fine, action against the license) and therapeutic sanctions (education or treatment). This should include the power to place offenders on probation.

b. The court's sanctions should last at least one year and more profitably two, particularly if non-reporting probation is used.

c. Once formally imposed, the sanctions must actually be used. That is, there should be a monitoring system to ensure that the court's instructions are obeyed.

d. The sanction should be severe enough to motivate persons to cooperate with the other components of the drinking driver control system in a way that will affect his driving habits.

e. Some part of the sanction should produce enough revenue to pay for the special services from the community, e.g., cost of a presentence investigation or a rehabilitation program.

f. There should be different penalties for social drinkers and problem drinkers, but both penalties should be meaningful.

g. Every effort should be made to ensure that legitimate sanctions are not avoided simply because other 'external'' sanctions such as loss of license or increased insurance rates will ensue. Many jurisdictions overemphasized these external sanctions and avoid conviction for the charge of DWI in order to protect offenders. This practice is clearly undesirable.

h. All sanctions deter some drinking drivers, but as a sanction is used more and more, it will work with increasingly fewer offenders.

Q. Why do the courts avoid imposing the full range of statutory penalties?

A. The courts reflect public belief that DWI is ''not really a crime'' and should not be subject to penalties greater than those experienced by, for example, felons and juvenile delinquents. The courts also have to be very sensitive to the reaction of the defense in order to protect their own functioning. These are the two basic reasons for avoiding severe penalties. The main issues which emerge, though not quantifiable, are as follows:

a. current belief that it is necessary to have a drivers license;

b. judicial autonomy over sentencing;

c. belief that statutory sanctions are ineffective;

d. belief that statutory sanctions are too harsh;

e. empathy with drinking-driving behavior;

f. fear of generating not-guilty pleas;

g. fear of being reversed on appeal;

h. fear of alienating voters;

i. belief that the defendant's economic situation would be endangered;

j. reaction to external sanctions, e.g., insurance rates.

Q. What is the likely effect of a mandatory jail penalty on the action of the courts?

A. The reaction of both prosecutors and judges will tend to be such that the penalty is not imposed as intended. They will develop methods of retaining their own discretion. This will normally result in an increase in the number of plea bargains and charge-reductions, or in the number of judgments not recorded, and there will probably be a net loss in the number of convictions for DWI.

If the prosecutors and judges do not exercise their discretion, defense attorneys will ensure that the backlog in the courts reaches great proportions as they schedule large numbers of cases for full trials and appeals. Some communities, however, impose mandatory jail penalties. The determinant is the attitude of the legal profession as a whole, and the existence of a previous tradition of refusing to plea bargain in DWI cases. Two ASAP communities were in states with mandatory jail sentences. One (Phoenix) responded to the introduction of this penalty by designing a system based on its total avoidance. The other (Cincinnati) proceeded to impose it in almost all cases.

Q. Are jail terms for drinking drivers desirable?

A. Other than the fact that jail keeps drinking drivers off the road for awhile, there is no research evidence to show if it is effective as a deterrent or not.

Practical difficulties normally keep jurisdictions from putting all offenders in jail. Jail space is expensive and in short supply, courts do not like to put ''respectable citizens'' in with ''criminals,'' and defendants will strongly contest convictions in order to avoid jail time.

Most projects advised that jail should be used selectively in the following circumstances:

a. more often for repeat offenders than for first offenders;

b. where offenders wantonly disobey or ignore the orders of the court;

c. as a threat to win compliance with a rehabilitation program.

Courts tend to use jail sentences as a punishment for repeat offenders, especially if the offender has gone through a treatment program without changing. It must be pointed out that such individuals tend to be more severely addicted to alcohol and therefore may need more treatment or different treatment, and that jail is not likely to change their long term behavior. On the other hand, jail is the ultimate criminal justice penalty for DWI and can be used effectively to induce some changes in behavior, e.g., attendance at a program, avoidance of driving without a license. All courts working with the project had the power

to impose some jail time and none advocated giving up that power.

Q. Should judges have authority over the driver's license?

A. Yes, if the driver licensing authority also has jurisdiction.

This was a problem for most projects and most judges. Where the driver licensing authority had sole authority over the license, judges could not rely on its actions and could not use selective action against the license to induce cooperation from the defendant without actively preempting action by the driver licensing authority. Where judges had sole authority, actions against the license become nonstandard.

Several projects recommended that the judicial power to place restrictions on a license (as contrasted with suspension or revocation) was a particularly useful tool and a satisfactory compromise. Issuance of a restricted rather than a suspended license became an important technique for retaining judicial control over an offender's behavior.

Q. What "external" sanctions affect the actions of the courts?

A. The courts showed an extreme sensitivity to the following sanctions which result from a DWI charge but which are not controlled by the court:

a. loss of driver's license, especially if it seen as causing loss of job or income;

b. increased insurance rates;

c. defense attorney fees;

d. fees for DWI school and rehabilitation.

Many judges believe that most cases deserve to avoid the loss-of-license or increased insurance penalties, and they will protect these individuals by such devices as encouraging a plea to a nonalcohol-related offense, refusing to convict, avoiding a record of conviction or notification of conviction, etc. Defense attorney fees, on the other hand, are regarded as a legitimate penalty. Fees for education/rehabilitation programs are very often handled by reducing the amount of fines by an equivalent sum. External sanctions therefore affect the process of adjudication and that of sentencing and must be considered by any project defining a "package" of sanctions or seeking a record of alcohol-related convictions.

III Rehabilitation

Background

In the past six years, there have been impressive gains in the knowledge about the rehabilitation of persons arrested for DWI, largely as a result of the use of rehabilitation and education for additional court-imposed sanctions in ASAP jurisdictions. When the ASAP program began in 1970, the treatment profession was oriented almost exclusively toward alcoholic persons and paid much less attention to the needs of non-alcoholic problem drinkers and social drinkers. The commonly held belief was that only persons who voluntarily asked for help could be successfully treated. Court referral programs were being tried in some isolated jurisdictions but their effectiveness was virtually unknown. Since judges were generally unwilling to refer people to the existing long-term therapy programs, the only alternative explored was the alcohol safety school based on a lecture format.

By 1977, the situation was very different. The treatment profession nationwide had come to regard DWI caseloads as one of their main sources of clients and had adjusted comfortably to the idea of accepting involuntary referrals. This was a substantial change in treatment philosophy, for which ASAP quite surely bears a large part of the responsibility. Judges (and prosecutors) have changed as well. Court-based referral programs are now quite common, although they are generally inadequately evaluated. Alcohol safety schools are the most popular component of such programs. However, in connection with the 35 ASAP projects, many communities developed alternatives to both long-term therapy and to alcohol safety schools. The result was shorter, more eclectic therapy programs which attempted to combine features of both education and longer-term rehabilitation. In sum, the complex process of diagnosis, referral, and evaluation, about which almost nothing was known in 1971, has now been documented and analyzed to the point that some useful advice can be given to communities.

The Alcohol Safety Action Program intended education and rehabilitation programs to supplement, not replace, the traditional punitive sanctions (jail, fine, license suspension).[1] However, this did occur at a number of sites. At the beginning (and still today), there was widespread dissatisfaction with the effectiveness of the punitive sanctions, especially for problem drinkers and alcoholics. Judges did not feel that these sanctions were sufficient and began to explore education and rehabilitation as additional options to modify the drinking driver's behavior.

One objective of the new short-term programs was to motivate persons to seek additional treatment when needed. Accordingly, the NHTSA worked closely with the National Institute on Alcohol Abuse and Alcoholism (NIAAA). In the 35 projects, clients were referred to newly developed or existing treatment programs, many of which were supported by the NIAAA. While NHTSA funded a number of educational programs*, it devoted little effort to developing therapeutic modalties since this was the domain of the NIAAA.

As referral programs grew in popularity, the NHTSA strongly shifted its attention to evaluation. Attempts were made to determine if these programs were having an effect and, if so, what kinds of clients.[2] After several years of effort, the NHTSA was able to implement adequate techniques for evaluating such programs at several projects. The data which these projects have generated provided the first reliable information concerning the effectiveness and characteristics of education and rehabilitation programs.

What these data indicate is that moderate success can be achieved in dealing with social drinkers. It appears to make little difference what type of program is used (i.e., education or group therapy) for these less problematic drinkers. Thus it would appear that the most economical approaches should be pursued.

For the problem drinker, however, positive results have been much more elusive. Data available from properly conducted ASAP studies suggest that few, if any, of the education or therapy programs which these persons were

*It should be pointed out that about 10 percent of the total ASAP program funds went into education or rehabilitation. Nearly 40 percent of persons arrested were referred to education or rehabilitation.

referred to had any positive effect in modifying their drinking or their drinking and driving habits. While the results are not yet complete for some approahces such as using disulfiram or long-term group therapy, it does not appear that existing court referral programs are having significant positive success with the more problematic drinkers.

More information is presented later in the chapter and provides an overall evaluation of the effectiveness of education and rehabilitation for drinking drivers. These alternatives can be effective improvements in program development and evaluation at the local and State levels, and if they are, clients, courts, treatment agencies, and society as a whole can benefit from the continued implementation of diagnostic/referral/rehabilitation systems.

Approach

The "systems" orientation of the ASAP concept is particularly evident in the area of diagnosis, referral, and rehabilitation. A major criticism in 1971 was that there was apparently no coordination between courts and treatment agencies. Worse still, there was little prospect for effective cooperation in the future. A major accomplishment at each of the projects was to develop a centralized and systematic procedure to adjudicate, diagnose, refer, and treat persons arrested for DWI. Having developed these systems, NHTSA then worked to ensure proper evaluation of their effectiveness.

The functions of *diagnosis* and *referral* were part of the adjudicative process. These activities were generally part of the "presentence investigation" and/or "probation" activities of the criminal justice system. Diagnostic and referral activities were initiated before and sometimes after sentencing. Information was collected to determine whether or not the individual had a drinking problem so that he might be referred to the appropriate referral alternative, e.g., school vs. group therapy. Monitoring was then necessary to ensure attendance at the program, and the effectiveness of the modality had to be measured. Organizationally, the ASAP diagnosis and referral system provided a transition between the courts and the treatment agencies, joining or sharing certain of their activities.

Diagnostic Procedures

The diagnostic procedures employed by the projects varied, but usually included an interview or questionnaire concerning the client's drinking patterns and an evaluation of past traffic and alcohol-related offenses. Blood alcohol content (BAC) at the time of arrest also contributed to the final diagnosis. A decision was then made as to the severity of the individual's drinking problem and a classification of non-problem drinker (NPD) or problem drinker (PD) resulted. Those persons who could not be diagnosed at either end of the severity scale were generally classified as unidentified (UI) drinkers.

Diagnostic mechanisms based on NHTSA criteria appeared to be reasonably effective for this purpose. The criteria were a simple and objective set of data which could be applied by individuals with relatively little specialized training in the area of diagnosing problem drinkers. The criteria usually included the use of a diagnostic test such as the Mortimer-Filkins test, which was developed specifically for the purpose of identifying problem drinkers in a court setting.[3] All but 6 of the 35 sites made use of some type of diagnostic test.

The validity of the overall diagnostic approach taken at the 35 projects appeared to be confirmed by subsequent evaluation efforts which showed that persons diagnosed by the NHTSA criteria as problem drinkers had a higher DWI rearrest rate than those diagnosed as non-problem drinkers[4]. (See Figure 3-1)

Encouraging Participation in Rehabilitation

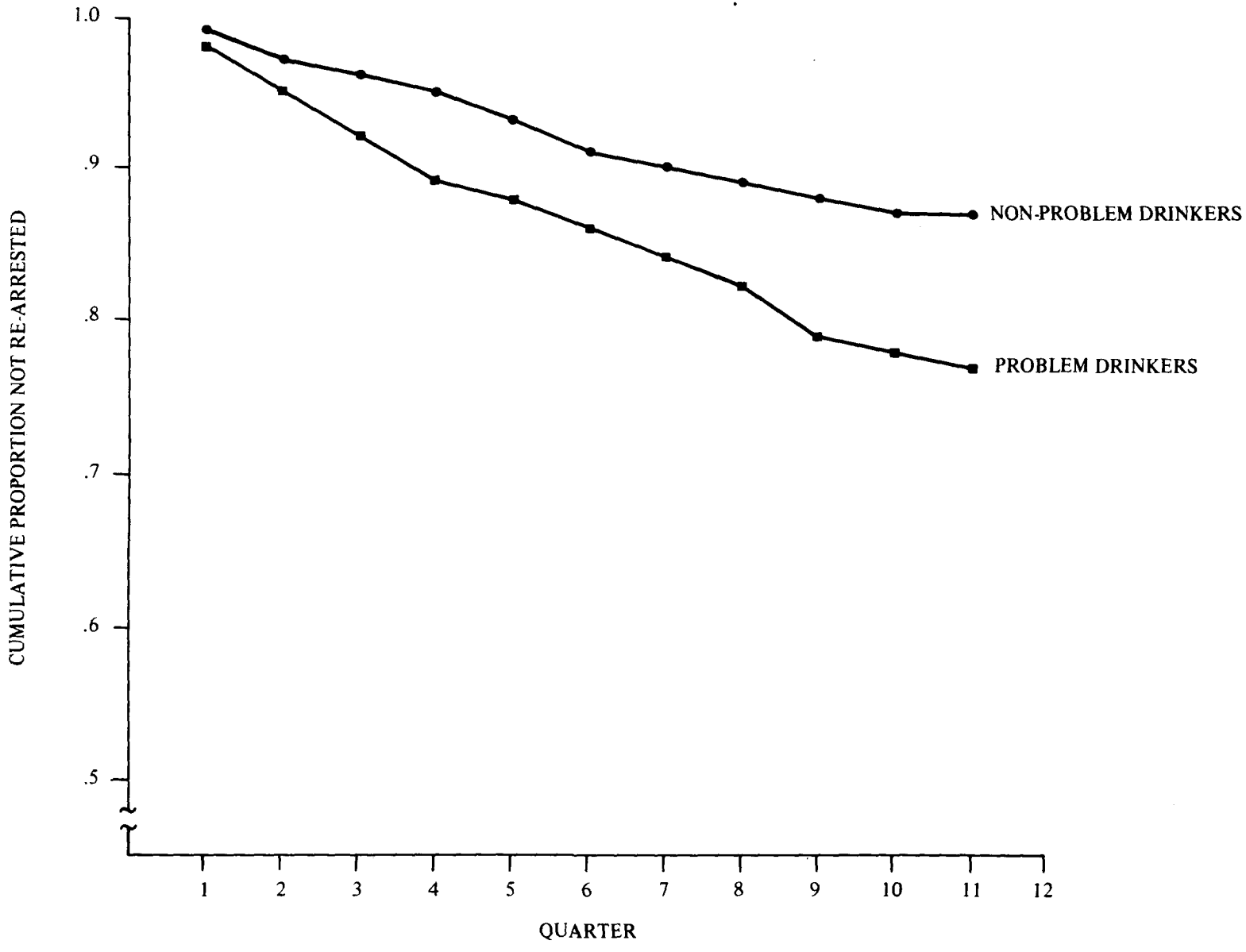
Many different methods were employed by the projects to encourage participation in programs. They ranged from incentive to coercive approaches. Probation was one of the most common methods for encouraging participation in rehabilitation. Either a specific rehabilitation program or simply "cooperation with the ASAP project" was made a condition of probation. A second frequently employed method was delaying the verdict or sentence on the DWI charge. In this quasi-diversionary type of system, court proceedings were suspended to allow participation in diagnosis, referral, and (if indicated) rehabilitation. After participation, an individual would return to court and a guilty verdict would be rendered for a reduced or a lesser charge if participation had been satisfactory. In the case of a delayed sentence, jail sentences and/or fines were often reduced upon satisfactory participation in the program.

Monitoring Participation in Rehabilitation

Client tracking systems were utilized to determine compliance with program requirements. In other words, client referrals were followed up in an attempt to identify those who entered, completed, or dropped out of rehabilitation. Where probation systems existed, the probation officers were usually responsible for tracking the clients. Otherwise, it became the responsibility of rehabilitation personnel. Beyond the mechanical problems of reporting client attendance, there was a significant amount of

FIGURE 3-1

SURVIVAL RATES FOR PROBLEM AND NON-PROBLEM DRIVERS



variation between projects in the quality and comprehensiveness of the client tracking systems. In some communities, for example, treatment agencies would not release information on a client's status. Most projects, however, maintained close contact with the treatment agencies throughout the course of the client treatment.

Cost of Diagnosis and Referral

As with client monitoring, there was much variation in the data collected on the cost of diagnosis and referral subsystems, which reflected the number of diagnostic and referral approaches used. At one extreme, there were sites where record checks provided the sole source of information for diagnosis. Conversely, there were sites which carried out extensive background investigations. The considerable differences in person-hour expenditures and in the type of personnel performing the diagnoses yieled costs ranging from $5.36 per client at one site to $187.56 per client at another. The average cost per case for diagnosis across all sites was estimated to be about $38.00. This cost was paid for, at least in part, by client fees. At many sites, it is now paid for entirely by client fees.

Rehabilitation Program Costs

Although the alcohol safety schools were usually funded by the projects, most of the other types of treatment programs were supported by other agencies. In several projects, funding by the NIAAA of community alcoholism treatment agencies represented a substantial portion of the financial resources. Unfortunately, a detailed account of total rehabilitation costs (including *non*-ASAP expenditures) was often unavailable. There was somewhat more precise reporting of rehabilitation expenditures for the school and chemotherapy programs since they were more completely funded by the projects.

With *chemotherapy* (disulfiram), costs were incurred for physical examinations (to ensure against possible adverse reactions) as well as for administration of the drug. Per client costs for chemotherapy treatment ranged from $44 in one project to $122 in another project. In comparison, the per client expenditures for *alcohol safety school* averaged $18. Group therapy fees were approximately $10 per subject per session, with an average of 2-4 sessions per month for 6 months. In the majority of cases, client fees either partially or totally covered the costs of conducting the schools and therapy sessions.

Findings and Recommendations

The following questions include those frequently asked by local and State personnel concerning the diagnostic, referral, and rehabilitation process. The answers represent

TABLE 3-1

NUMBER OF PERSONS ENTERING VARIOUS STATES OF ASAP SYSTEM BY YEAR (1971-76)

Year	Arrests	Driver Record Checks	Received Background Investigation	Received Diagnosis	Entered Rehabilitation	Complete Rehabilitation	Completed (% of Entry)	Dropped Rehabilitation	Dropouts (% of Entry)
1971	25,460	322	4,876	4,137	3,139	1,322	42	215	77
1972	128,677	50,407	48,676	41,504	35,745	21,019	59	3,576	10
1973	139,883	66,280	60,792	55,972	56,498	40,449	72	7,040	12
1974	130,940	63,876	59,314	53,101	48,007	36,671	76	5,551	12
1975	85,735	41,493	39,918	35,680	33,098	27,646	84	3,539	11
1976	57,705	31,936	27,900	23,944	23,557	20,643	88	2,535	11
TOTAL	568,400	254,314	241,476	214,338	200,044	147,750	74	22,456	11

the best information available to date from program data and project experience.

I. The Overall Diagnosis, Referral, and Rehabilitation System

Q. How many persons will enter each segment of the diagnosis, referral, and rehabilitation (D/R/R) system?

A. This largely depends on the objectives and efficiency of the program, and particularly on the degree of support received from the courts. Table 3-1 summarizes the level of activity throughout the life of the ASAP program, during which varying numbers of projects were operating in any given year. The table shows that the *absolute number* of people *processed* by the system steadily increased each year until 1973, when all 35 projects were in operation. After 1973, as different projects were phased out, the total number of persons processed declined. However, as Figure 1-4 indicates, the *proportion of those arrested* who were processed by the D/R/R system generally increased from 1971 to 1976.

Figure 3-3 shows that for the average proportion of persons processed at each state, 45 percent of those arrested had their driver records checked; 42 percent received a background investigation; 35 percent entered rehabilitation (or education); and 26 percent completed the program. There was much variation between projects, with some achieving much higher percentages at the various stages.

Again, as indicated in Figure 3-2, there was an increase each year in the number of arrested persons processed through the various stages of the system. This represents growth in both the acceptance and efficiency of the system.

Q. What kinds of people will the D/R/R system be dealing with?

A. Figures 3-4 and 3-5 suggest that more problem drinkers reached either the diagnostic (Figure 3-4) or rehabilitation (Figure 3-5) stages than any of the nonproblem drinkers or those classified as "unidentified."

Although the data collected in the diagnostic investigations varied considerably from project to project, data on certain variables were consistently collected. The following discusses the relationship between some of these variables and the project's diagnostic system. Two of the variables listed below, arrest BAC and prior alcohol-related offenses, emerged as two of the most important for determining drinker classification, as well as for predicting future alcohol-related arrests.

- *Age*. An increase in the number classified as problem drinkers was positively correlated with an increase in age.
- *Sex*. Over 90 percent of those subjected to ASAP diagnosis were male.
- *Martial Status*. A greater number of divorced or separated persons were classified as problem drinkers.
- *Occupation*. The persons most frequently subjected to diagnosis were blue collor workers. Unemployed persons were proportionally categorized as problem drinkers more frequently than individuals in any other occupation category.
- *Arrest BAC*. There were more problem drinkers at higher arrest BAC's.
- *Prior Alcohol-Related Traffic Offenses*. There were more persons classified as problem drinkers as the number of prior alcohol-related traffic offenses increased.

Q. Where should the diagnosis and referral portion of the system be located administratively?

A. Each locality made its own choice on program location based on local administrative and political constraints.

Conceptually, the best diagnosis/referral program placement appeared to be one which allowed full communication with the courts so that full cooperation of the judges could be assured. A less desirable situation was that in which the referral was made to a single treatment agency. This situation had a great potential for either real or imagined conflict of interest problems for the agency which was in the position of referring people to itself. Placement within a treatment agency also made it difficult to carry out proper evaluation procedures (e.g., random assignment). The independent alcohol safety school also did not prove to be a good choice of location.

FIGURE 3-2

PROPORTION OF ARRESTED PERSONS REACHING VARIOUS STAGES OF ASAP PROCESSING BY YEAR (1971-76)

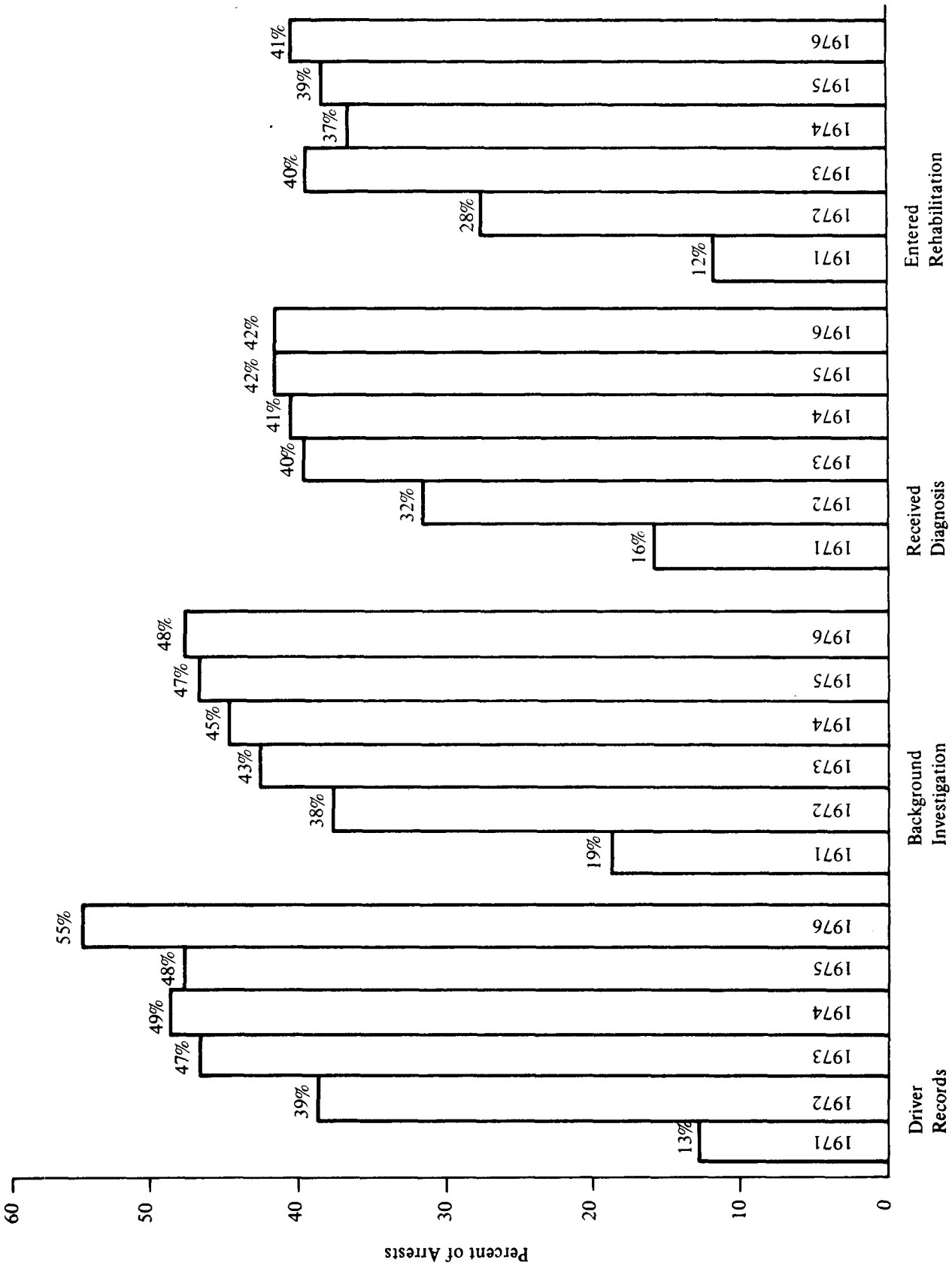


FIGURE 3-3

PERCENT OF PERSONS ENTERING VARIOUS STAGES OF DIAGNOSIS/REFERRAL SYSTEM (1971-76)

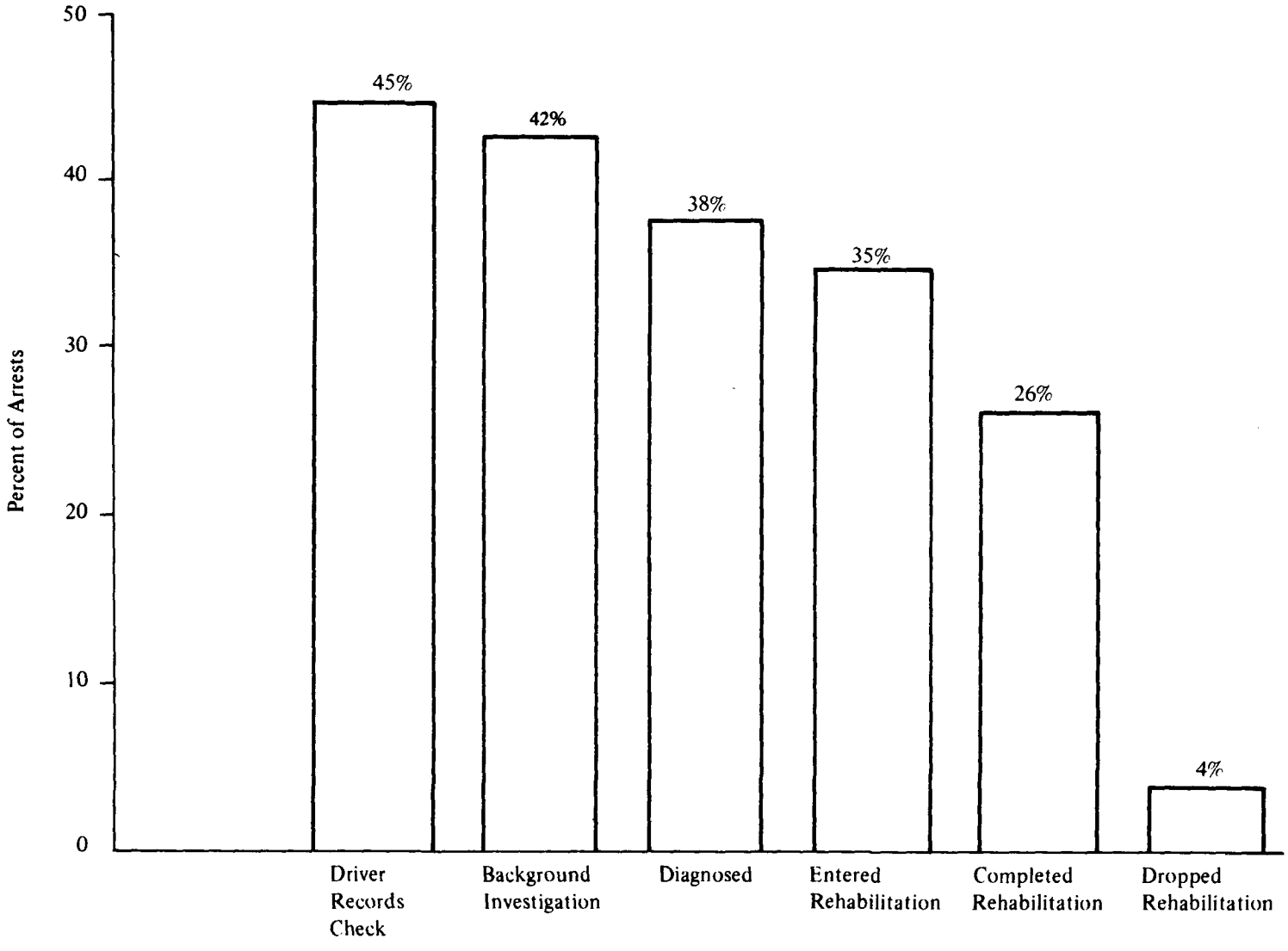


FIGURE 3-4

PROPORTION OF DIAGNOSED PERSONS REFERRED (and not referred) TO REHABILITATION BY DRINKER TYPE

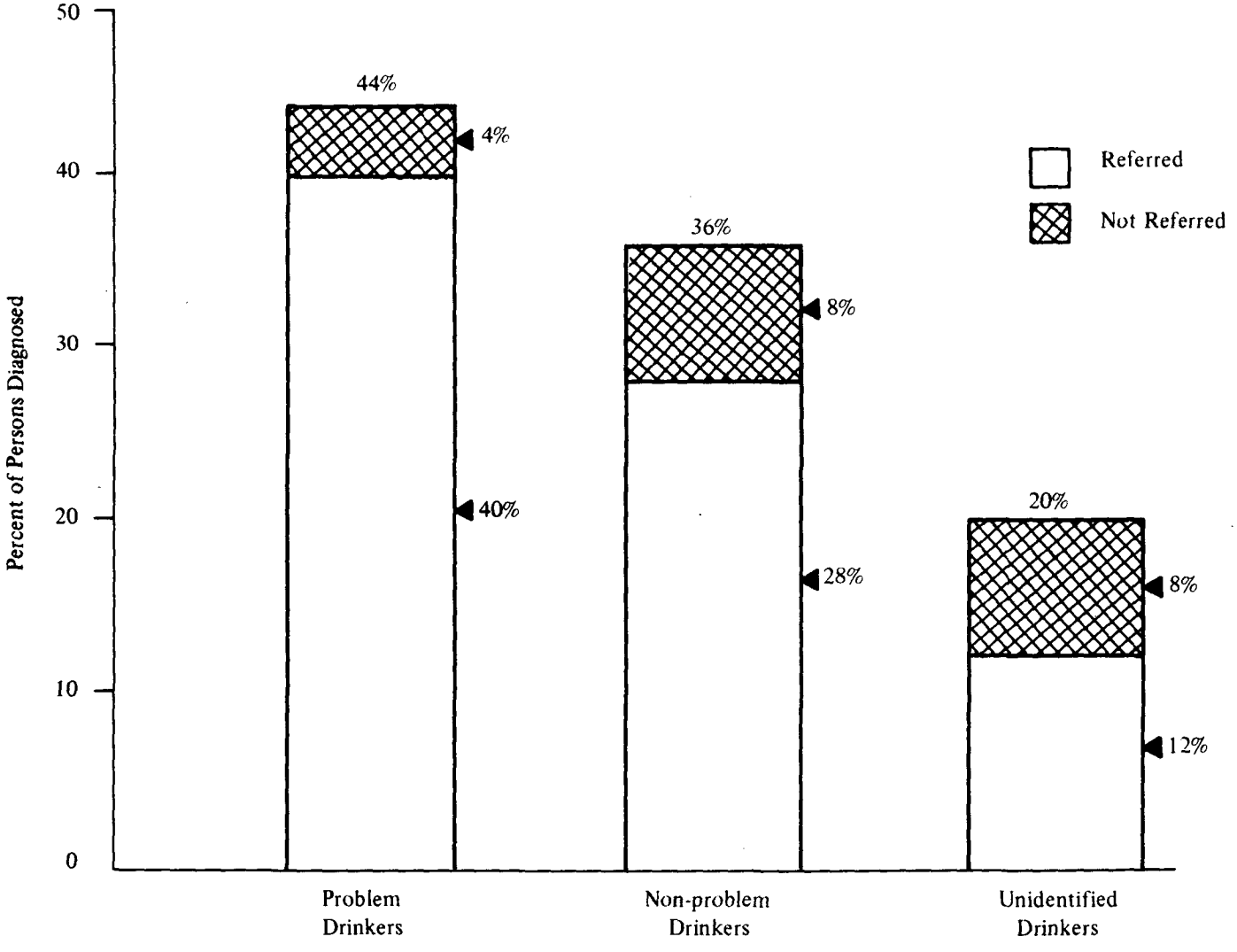
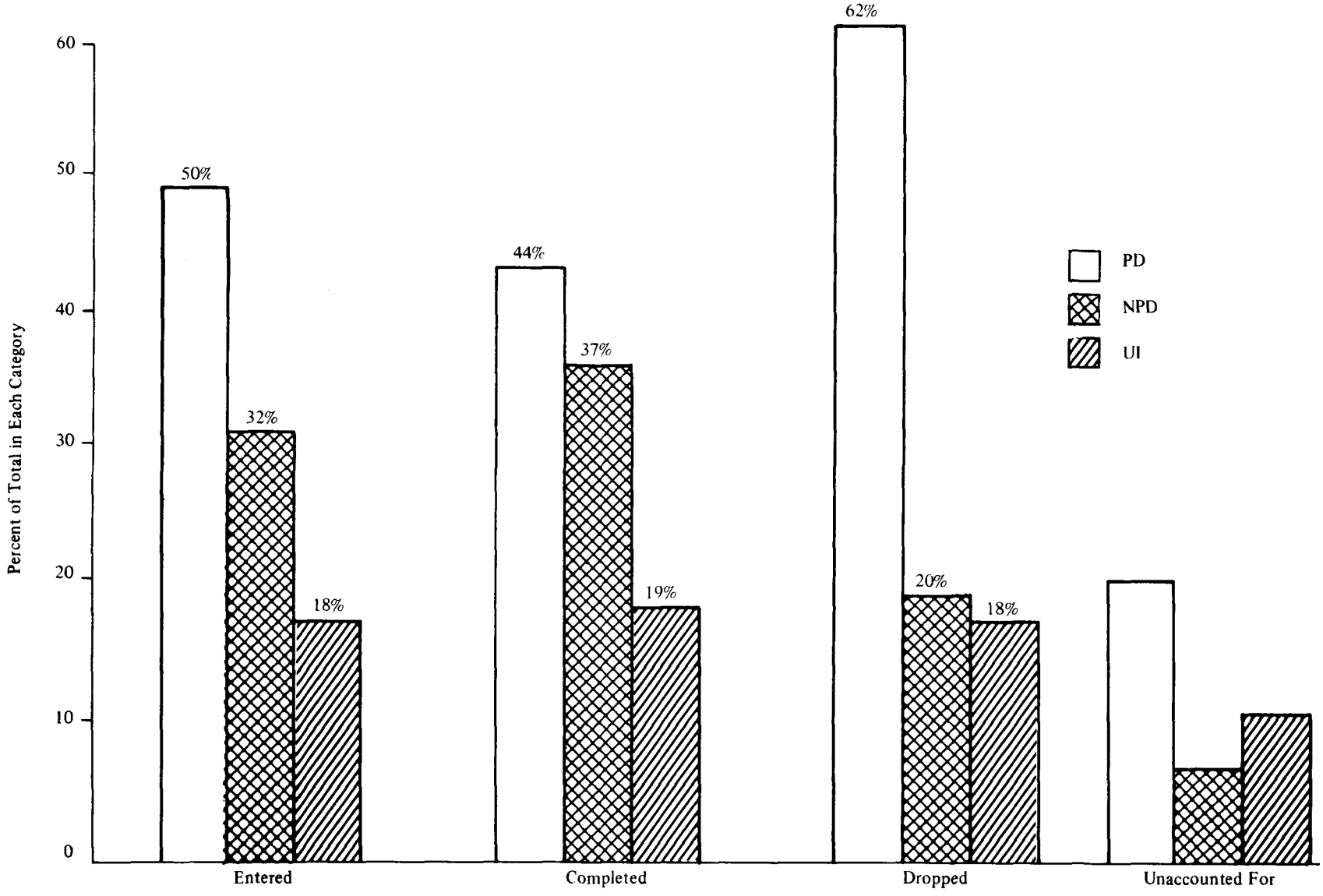


FIGURE 3-5

OVERALL COMPOSITION OF REHABILITATION STAGES BY DRINKER TYPE (1971-76)



II. The Diagnostic Portion of the System

Q. What proportion of the persons receiving diagnosis (and/or entering rehabilitation) will be identified as problem drinkers and as non-problem drinkers?

A. This depends, of course, on the classification criteria used. The original expectation was that roughly one-third of those diagnosed would be classified as non-problem (social) drinkers. As Figures 3-4 and 3-5 indicate, the nationwide experience was close to this estimate. With respect to the 200,044 persons reported as having entered rehabilitation programs from 1971 through 1976, 32 percent were diagnosed as non-problem drinkers, 50 percent as problem drinkers, and 18 percent as unidentified drinker types. (See Figure 3-5) The overall proportion of clients identified as problem drinkers varied from a low of 46 percent in 1972 to a high of 55 percent in 1971. There were even larger differences in these proportions among project sites. This can probably be explained by differences in the classification criteria used as well as by differences in the various diagnosticians' views on alcohol problems and alcoholism. There was evidence that an increased arrest rate generally resulted in an increased proportion of persons diagnosed as non-problem drinkers.

Q. What were the most useful diagnostic criteria?

A. Prior arrest record, Mortimer-Filkins scores, and BAC used in combination (and often in sequence) provided maximum discrimination with practical efficiency.

The original criteria provided to the projects to define a problem drinker were:

a. Diagnosis as an alcoholic by a competent medical or treatment facility, *or*

b. Self admission of alcoholism or problem drinking, *or*

c, Two or more of the following:

1. A BAC of .15 percent or more at the time of arrest;

2. A record of one or more prior alcohol-related arrests;

3. A record of previous alcohol-related contacts with medical, social, or community agencies;

4. Reports of marital, employment, or social problems related to alcohol;

5. Diagnosis as a problem drinker on the basis of an approved, structured, written diagnostic instrument such as the Mortimer-Filkins test.

Operationally, some criteria proved much less useful or practical than others. For example, diagnosis as an alcoholic by a competent medical authority, prior to court action, proved to be a rare (as well as an unvalidated) occurrence. So did self-admission of a drinking problem. Prior criminal records also proved not to be practical in many localities since such records were often not easily obtainable.

Q. Which diagnostic test was used most frequently?

A. The most widely used diagnostic instrument was the two-part Mortimer-Filkins (M-F) Drinking Driver Questionnaire and Interview.[3] In an independent review of 13 diagnostic instruments, the National Institute of Alcohol Abuse and Alcoholism (NIAAA) reported the Mortimer-Filkins test to be one of the better-developed and more extensively field-tested diagnostic instruments available.[7] It was the only instrument developed and validated for DWI populations (as opposed to alcoholic populations). Its scoring system has been adjusted as a result of experience with the NHTSA national program.

The primary difficulty reported with the Mortimer-Filkins package was the length of time required to administer the interview section (approximately 60 minutes). As a result, some projects tended to use the Mortimer-Filkins selectively. In cases where other criteria (such as prior arrests) were unable to identify the person as a problem or non-problem drinker, the Mortimer-Filkins was used. Thus, in some cases, as much as half of the caseload was exempted from the test. Other projects experimented with "short-form" Mortimer-Filkins tests of their own design. Since these tests have not yet been validated, their accuracy and thus their usefulness remains unknown.

Experience showed that the Mortimer-Filkins can be used along with prior arrest records to develop a fast, efficient, and reasonably accurate screening system. It does not require the use of highly trained personnel and a manual is provided with the test. In addition, the questionnaire portion of the test may be administered by trained clerical personnel to groups of individuals.

Q. Were the various diagnostic approaches used across the country valid indicators of problem or non-problem drinking?

A. Yes.

It is difficult to determine which criterion is the most *valid* indicator of who is (and who is not) a real problem drinker. However, in the highway safety area, one criterion is, by definition, a valid indicator of a problem drinker driver. This criterion is a rearrest for DWI (or some other recordable drinking-driving offense). While not all problem drinking drivers will be rearrested for DWI, this criterion does provide an objective and valid index of problem drinking driving (which is at least one form of problem drinking) for *group* comparison purposes.

During the course of the alcohol countermeasure program, NHTSA supported "survival rate" analyses of the rearrest records of thousands of clients who entered the program. "Survival" in these analyses was defined as *not* being rearrested for DWI or a similar offense. As shown in Figure 3-1 , persons diagnosed as problem drinkers had significantly lower survival rates (or significantly greater rearrest rates) than those diagnosed as non-problem (social) drinkers.[4 8] Thus, inspite of the variations in procedure, valid discriminations were made.

Q. Of all the diagnostic criteria used, which were the most valid indicators of problem drinking?

A. The most valid criteria were (a) prior arrests for DWI, (b) Mortimer-Filkins scores, and (c) Arrest BAC, respectively.

a. Prior arrest for DWI

As in other areas of human behavior, the best predictor of future performance is past performance. DWI behavior was no exception. Figure 3-1 contrasts the survival rates (proportion of clients *not* rearrested for DWI) for clients with prior DWI arrests to those with no prior DWIs. After three years follow-up, approximately 15 percent of those clients without prior DWI's had been rearrested, while more than 45 percent of the clients with prior DWIs on their record were rearrested. No other single criterion provided equal discriminatory power.

b. Scores on the Mortimer-Filkins Test

The Mortimer-Filkins package (questionnaire and interview) also proved valid for differentiating between problem and non-problem drinkers. It was especially useful in conjunction with the criterion of prior DWI arrest. Specifically, as Figure 3-7 shows, the Mortimer-Filkins aided in identifying problem drinking drivers from among those who had *no* prior DWI arrest record.

c. Blood Alcohol Concentration (BAC)

Blood alcohol concentration, used alone, was the least discriminatory of the three criteria discussed here. Figure 3-8 shows the first offender survival rates (proportion not rearrested) for persons with BACs of .15 percent or less versus those with BACs greater than .15 percent. Like the Mortimer-Filkins scores, arrest BAC, when used with prior records, added to the ability to predict which clients would be rearrested. However, for clients with no prior DWIs, the Mortimer-Filkins score was a better predictor than BAC.

Q. Which combinations of diagnostic criteria are the most valid, and practical?

A. Earlier it was pointed out that over the history of the entire ASAP program, the proportion of reported social drinkers, problem drinkers, and unidentified drinker types was 32 percent, 50 percent, and 18 percent, respectively. It must be remembered that these percentages aggregates across a number of sites using different diagnostic techniques. The following discussion gives results of efforts to look within particular diagnostic approaches to determine how these specific techniques discriminated between various drinker types and how well they were able to predict future drinking behavior.

Based on the analyses conducted for the NHTSA, prior DWI arrest reocrd appears to be the best predictor of future DWI arrests and therefore of problem drinking driving. Neither arrest BAC nor Mortimer-Filkins scores can give further information on the severity of the problem *for those persons with one or more prior arrests*. Either criterion, however, can add to discrimination of problem severity for those individuals with no prior record.

Figure 3-9 illustrates the above findings and suggests that the most discriminating classification scheme would be as follows:

a. System 1

- If a person has no prior DWI arrest record and scores 39 or below on the Mortimer-Filkins test, he could be classified as a social drinker (SD).

- If a person has no prior arrest record but scores 40 or higher on the Mortimer-Filkins test, he could be identified as a potential problem drinker (PPD); and

FIGURE 3-6

SURVIVAL RATES FOR PRIOR DWI ARREST CATEGORIES

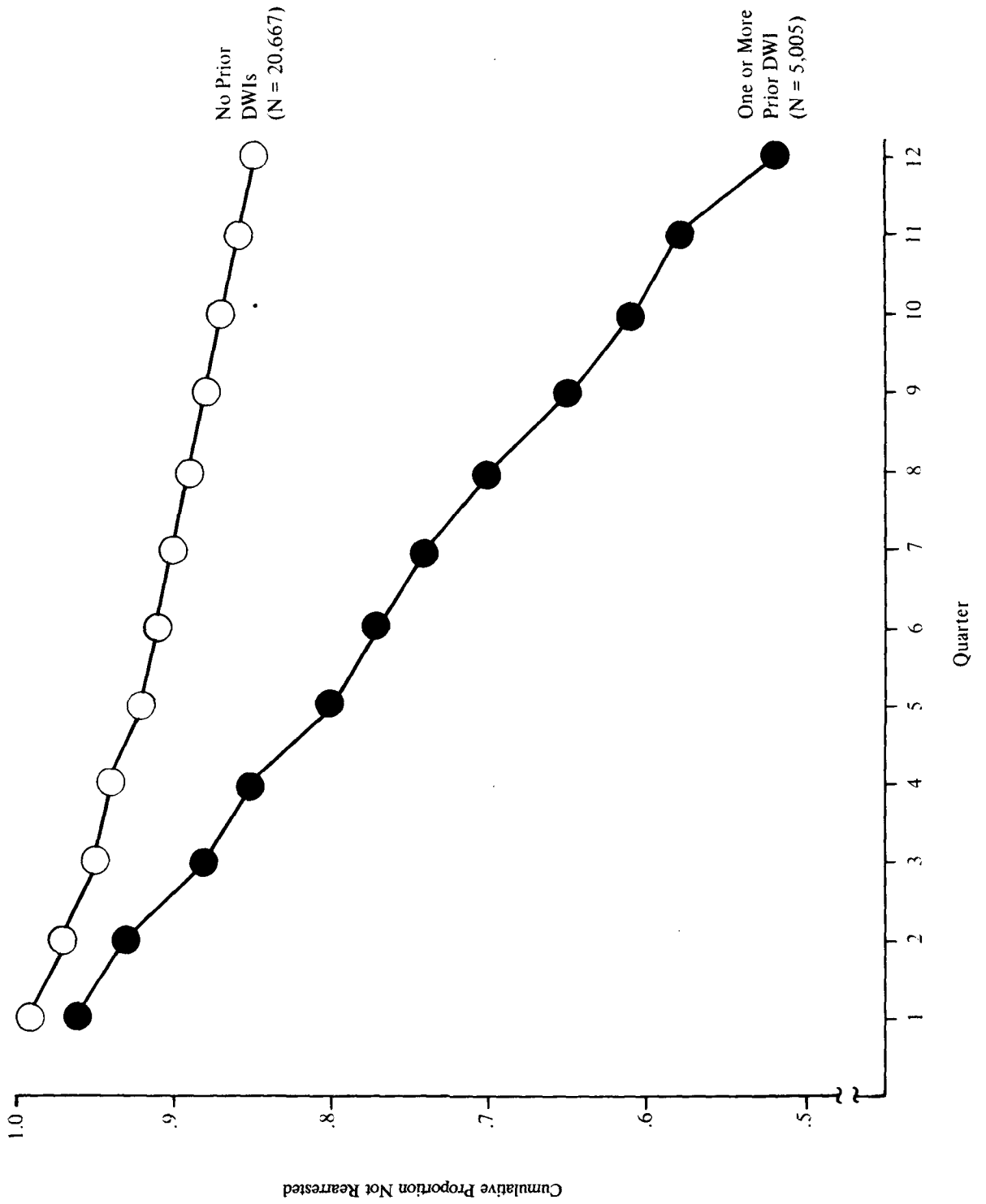


FIGURE 3-7

SURVIVAL RATES FOR MORTIMER-FILKINS AND PRIOR ARREST CATEGORIES

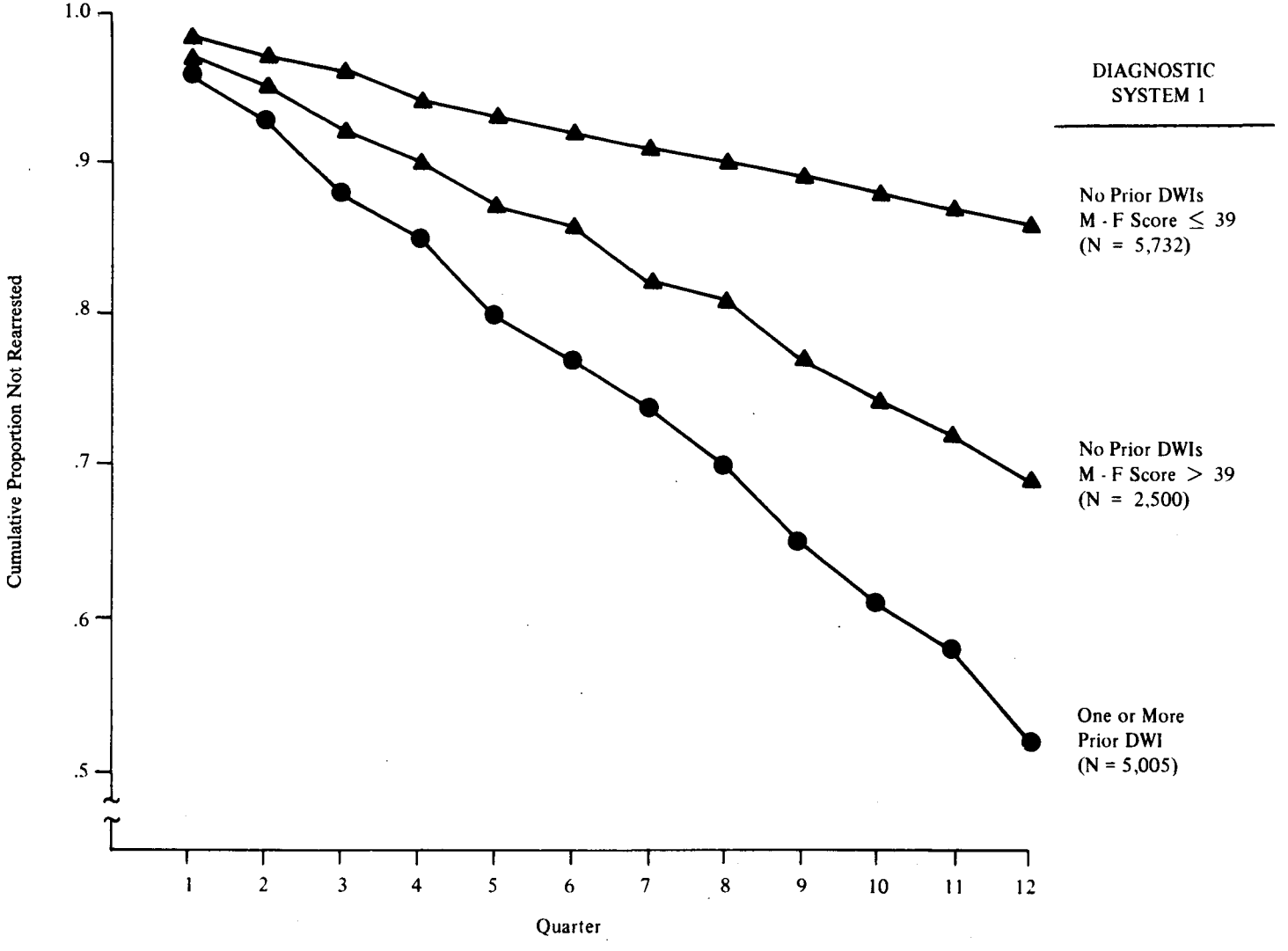


FIGURE 3-8

SURVIVAL RATES FOR BAC AND PRIOR DWI ARRESTS

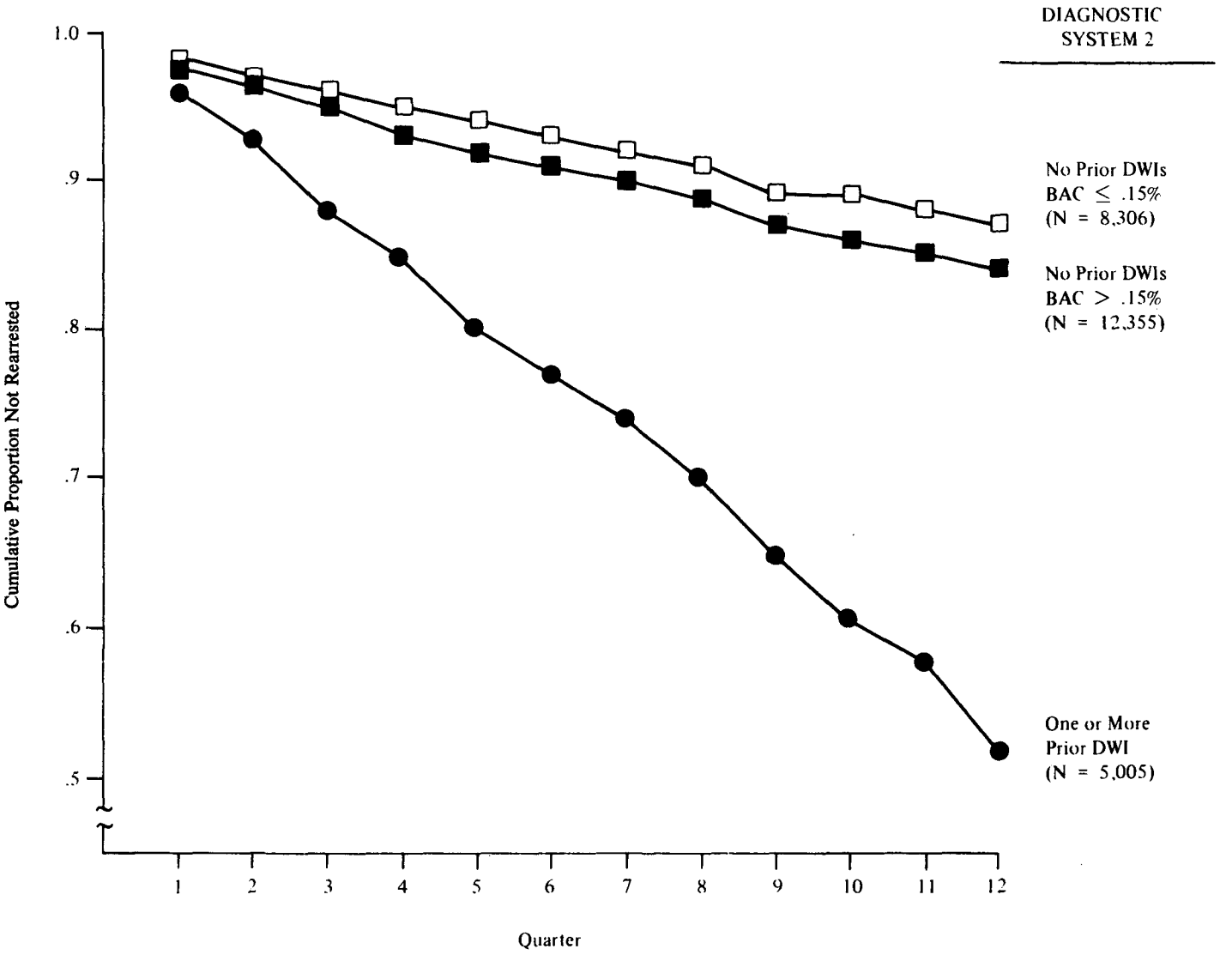
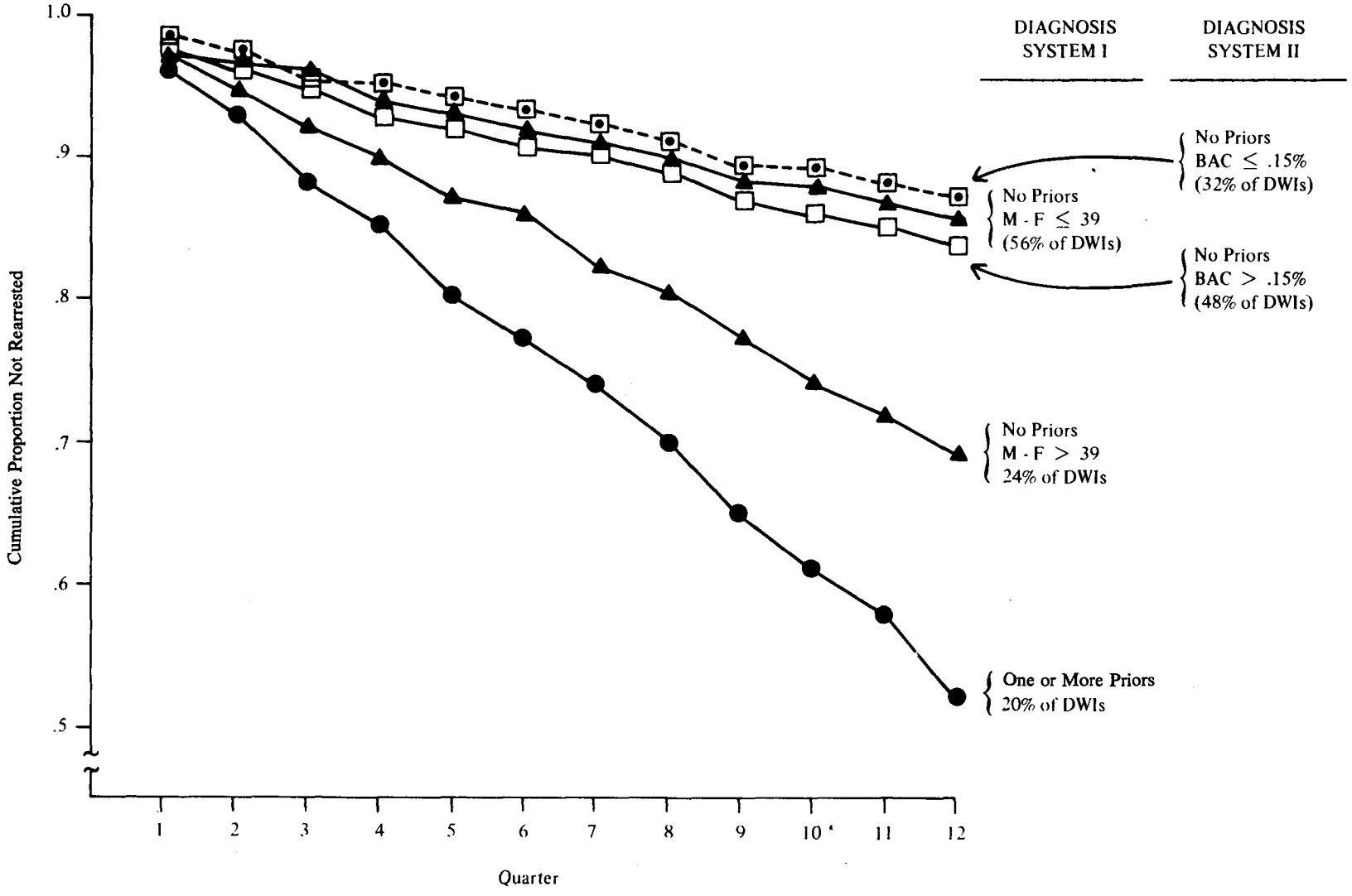


FIGURE 3-9

SURVIVAL RATES FOR PRIOR ARREST, M-F, AND BAC CATEGORIES



- If a person has one or more prior DWI or similar arrests, he could be classified as a problem drinker (PD).

This system means that approximately 56 percent of DWIs would be classified as social drinkers, 24 percent as potential problem drinkers, and 20 percent as problem drinkers. Potential problem drinkers (PPD) could either receive further diagnosis or be referred to treatment alternatives similar to those for problem drinkers (PD).

An alternative procedure using BAC and prior records would be as follows:

b. System 2

- If a person has no prior DWI arrests and an arrest BAC less than .15 percent he could be classified as a social drinker.

- If a person has no prior DWI arrests but has an arrest BAC of .15 percent or greater, he could be classified as a potential problem drinker; and

- If a person has one or more prior DWI arrests, he could be classified as a problem drinker.

This classification system would result in approximately 32 percent of the DWIs classified as SDs, 48 percent as PPDs, and 20 percent as PDs. Thus, more persons would be diagnosed as potential problem drinkers and fewer persons as social drinkers using the BAC system than with the Mortimer-Filkins system. While BAC is more efficient to use as a diagnostic criterion (because of the time required to administer the Mortimer-Filkins) more persons would fall into the middle (PPD) category, which may require further diagnostic effort. This requirement is probably more time-consuming. Also, there appears to be much less difference between the survival rates of the SD and PPD groups using the BAC criterion than using the Mortimer-Filkins scores.

III. The Referral Portion of the System

Q. What referral decisions can be made on the basis of diagnoses such as those which try to classify the severity of the drinking problem?

A. A diagnostic system is valuable only as long as it is used to make helpful referrals. A good diagnostic system gives the client a better chance to receive the kind of help that would result in fewer rearrests, accidents, or other alcohol-related problems, than if no system were used. Unfortunately, no such system has been documented to date. Furthermore, with few exceptions, little is known about which treatment theories or programs work best for a given client. Some are obviously more *acceptable* to certain clients (and to some judges) but effectivness in terms of reduced accident rates or drinking problems has not been systematically investigated.

Q. Are diagnostic efforts of any value to the adjudication or DWI processing systems?

A. Yes, they are! First of all, the courts stand to benefit from knowing more about the characteristics of the DWIs, who represent so much of their caseload. By understanding more about these people, the courts may be more willing to provide the sentencing provisions necessary to get them into the treatment programs that can positively affect their behavior.

More important, however, is the fact that some treatment programs are more acceptable to both clients and the courts than others. For example, few judges would consider sentencing a first offender (or social drinker) to psychotherapy or a disulfiram treatment program. Similarly, few clients would agree to it. On the other hand, there is accumulating evidence to suggest that lecture-type schools are not appropriate for problem drinkers.

The court's willingness and/or ability to sentence a client to a longer-term treatment program often depends on the extent to which the diagnostic evidence suggests that the client is a problem drinker. Even more frequently, however, it depends on whether or not the client is a multiple offender.

Statutes based on the number of prior offenses often limit judges (or licensing agencies) in the type of sanctioning options or incentives which can be used to get DWIs into treatment programs. From this standpoint, it is fortunate that the DWI diagnostic system described above *are* based primarily on prior arrest records. Thus, there is reasonable harmony between the needs of the courts, the requirements of the law, and the validity of the primary diagnostic criterion.

With this in mind and with the need to determine and improve the effectiveness of various referral decisions, the question should be asked, *what kind of decisions can now be made on the basis of drinker type diagnoses?* On the basis of existing data, *clusters* of treatment alternatives can be selected Which will be acceptable to both courts and clients.

Within which each cluster of treatment alternatives, however, clients should be *randomly* assigned so that progress can be made in determining which *specific* treatments (or treatment combinations) work for what kinds of clients.

Figure 3-10 illustrates this idea. For the social drinker (SD), treatment A might be a lecture course on alcohol problems while treatment B could be a home study program. For problem drinkers (PD) the treatment alternatives might include group therapy, disulfiram, etc.

Potential problem drinkers (PPD) could be referred to a group of treatment alternatives similar to those used for problem drinkers but possibly modified by excluding the most extreme modalities e.g., chemotherapy, and Alcoholics Anonymous, etc.

Ideally, there should always be a no-treatment (traditional sanctions only) control group to determine if any of the rehabilitation alternatives have an effect beyond that of the normal adjudication-licensing process, so that more effective versions of those alternatives could be encouraged.

Q. What is the attitude of treatment agencies towards receiving clients under the direction of the courts?

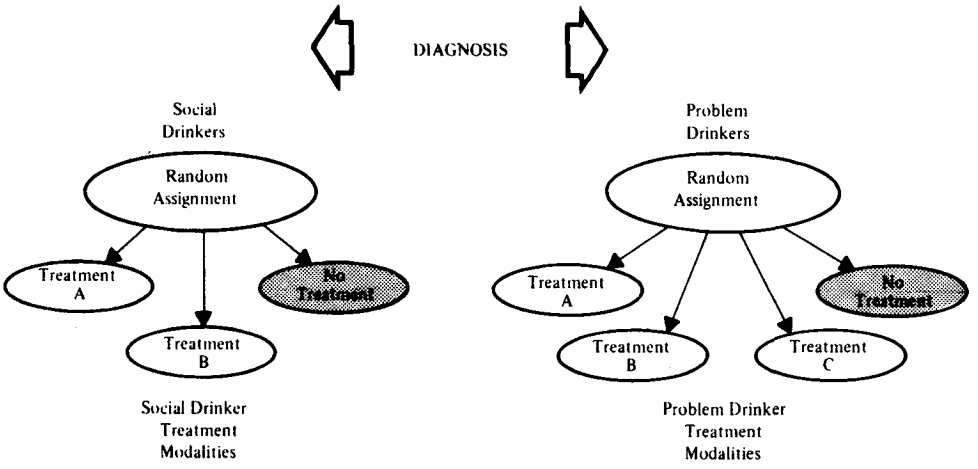
A. Quite favorable. When the program started, there was considerable reluctance to accept clients under court control. This caution had at least two sources. First, many treatment professionals believed that they could work effectively only with self-referred clients. Some also believed that confidentiality to the client would prevent them from reporting "progress" to the courts. Experience soon allayed most of these fears.

Treatment agencies and organizations such as Alcoholics Anonymous often see the courts as their single most important intake mechanism. The courts give them a chance to work with clients they never would have seen. These clients are often at an *earlier* stage in their drinking problem than clients who volunteer for treatment. The treatment agencies also found some value in the power of the courts to keep clients in treatment beyond the stage at which many of the self-referred clients would have dropped out. Obviously, the big challenge (which still remains) was to get people under court-ordered referrals to recognize their problem and to accept help for it.

By the end of the nationwide program, treatment agencies had become one of the most active supporters of the ASAP concept. In some States, entire programs are now being developed and/or managed by health care agencies.

Figure 3-10

REFERRAL DECISIONS BASED ON DRINKER DIAGNOSIS



(Within Drinker Types) All Groups Can Be Compared With Each Other.

Q. How long should the diagnosis and referral process take?

A. Some projects showed that it was possible to have a person arrested for DWI in a rehabilitation program within a week. Such efficiency was obviously not a common occurrence (in spite of its desirability). Fast and efficient diagnosis and referral saves money and reduces the court's workload. It adds to the impact of the arrest on the drinking driver and *may* improve the chances for a successful outcome.

Considerable effort should be made to see that the diagnostic/referral process does not slow down the court's processing of the case, e.g., by requiring an additional appearance because of the diagnostic process. In addition, it should not delay the person's entering a rehabilitation program.

Q. How long should a "presentence" report be?

A. Originally, the projects used full presentence reports that were about as thorough as a felony report and about as long as a full misdemeanor report (2-3 pages). This proved unnecessary and, in terms of caseload, often impossible. Almost all projects moved to much shorter reports.

The purpose of the presentence report will dictate its thoroughness. If it is simply to indicate whether the person is a problem drinker or not, a notation to the judge is often sufficient (subject to his agreement). If the judge wants the information in order to determine such matters as the amount of fine, the length of a jail sentence, or the duration of license suspension, a longer report will probably be needed. In all cases, the presentence investigators should work with the judges to determine the *minimum* length required for each kind of report.

IV. The Education/Rehabilitation Portion of the System

Q. What was the distribution of persons entering various types of treatment modalities in the nationwide program?

A. The proportion of clients who entered the various treatment modalities apparently depended on a variety of factors such as: (a) the classification criteria used; (b) the orientation of the court; and (c) the availability of alternative programs. As Figure 3-11 shows, 62 percent of the clients entered on alcohol safety school. A much smaller proportion went to group therapy, chemotherapy, or any of the remaining alternatives listed.

The distribution of entries for problem drinkers alone was similar but less extreme, as Figure 3-12 indicates. Both figures clearly indicate that the alcohol safety school was the most popular referral alternative for all drinker types. Assuming that alcohol safety schools may not be appropriate for problem drinkers, inappropriate referrals did occur.

Q. How many clients will complete a rehabilitation modality? How many will drop out?

A. Overall, approximately 74 percent of those entering a treatment modality in the NHTSA program were reported as having successfully completed it. An average of 11 percent dropped out.

Completion and dropout rates varied widely by *drinker type* and by *modality*. Also, as Figure 3-13 shows, the average completion rate increased over the years, probably due to improvements in the reporting systems.

Problem drinkers were more likely to drop out than non-problem drinkers. Figure 3-14 shows the proportion of dropouts for each drinker type, each year. Figure 3-15 shows that those modalities intended primarily for problem drinkers had the highest dropout rates. The alcohol safety schools had very low overall dropouts rates (for all drinker types). The schools were thought to have low dropout rates because the program was brief and it interfered little with the client's lifestyle.

The higher dropout rates for the more elaborate modalities are not surprising. These modalities were used for drinkers with more severe problems. Furthermore, their greater length (26 weeks for chemotherapy vs. 8 weeks for most schools) provided more opportunities for dropping out.

Q. How much can education and rehabilitation programs contribute to solving the alcohol-related accident problem?

A. Education and rehabilitation alone probably cannot reduce the overall problem to any significant degree—at least not within the foreseeable future. The reason is that these programs deal only with known offenders (DWI's).

While the caseload that results from court-ordered referrals is much larger than that formerly handled by treatment agencies on a voluntary basis, it still represents only a small portion of the drivers who will contribute to

FIGURE 3-11

OVERALL USE OF THE BASIC TREATMENT MODALITIES FOR ALL DRINKER TYPES (ENTRIES 1971-76)

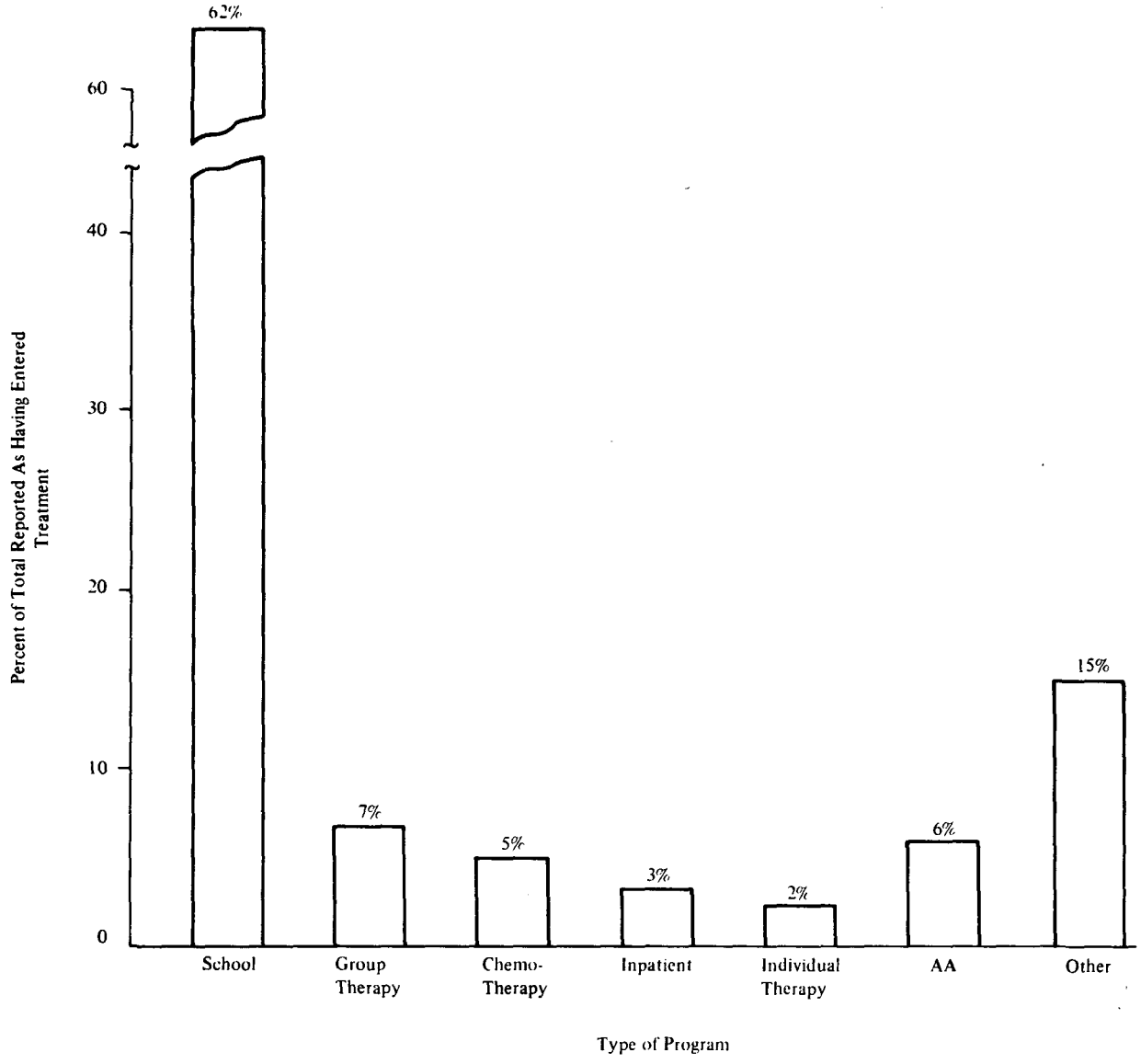


FIGURE 3-12

OVERALL USE OF THE BASIC TREATMENT MODALITIES FOR PROBLEM DRINKERS (ENTRIES 1971-76)

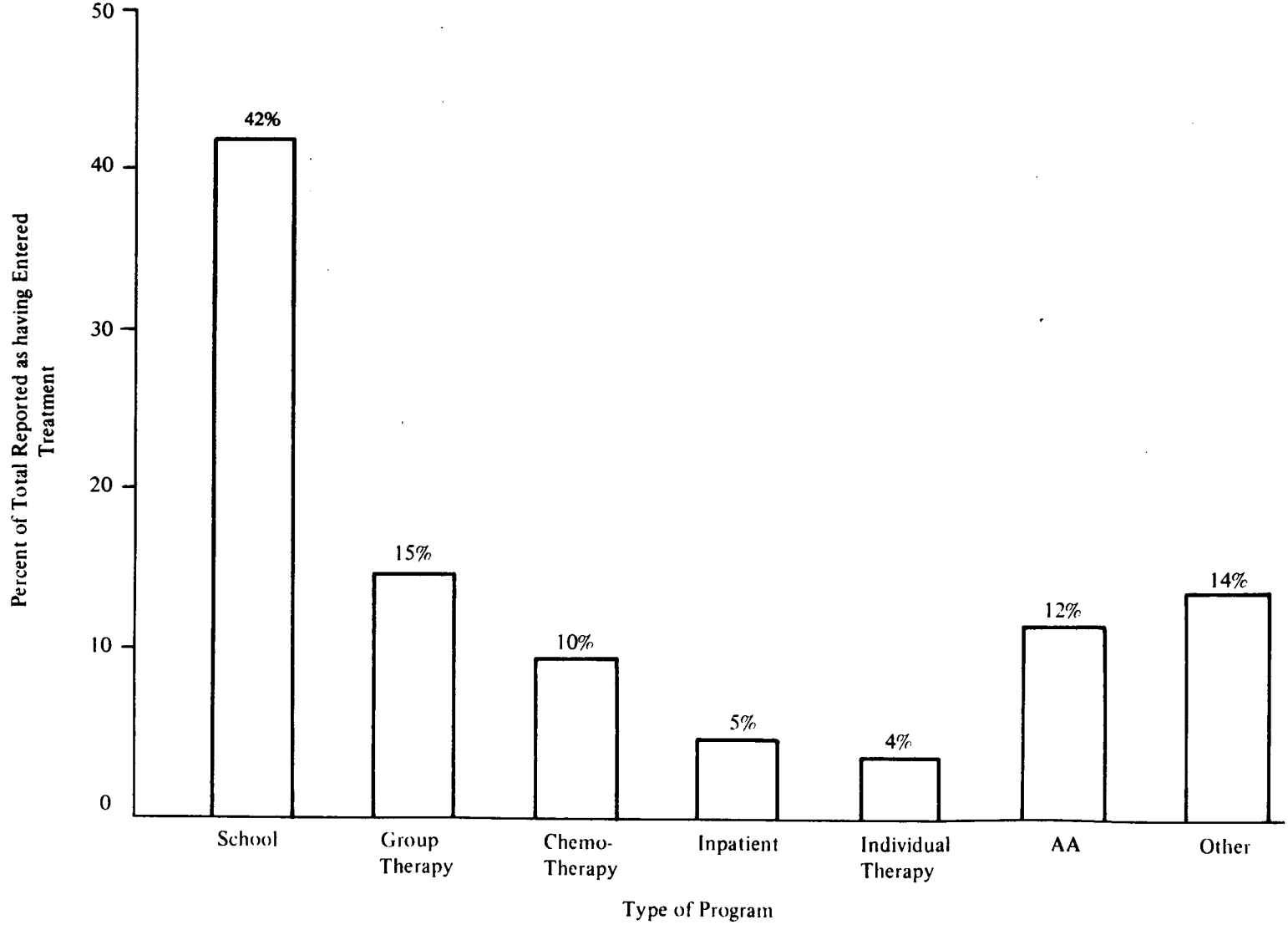


FIGURE 3-13

PROPORTION OF PERSONS COMPLETING OR DROPPING REHABILITATION EACH YEAR

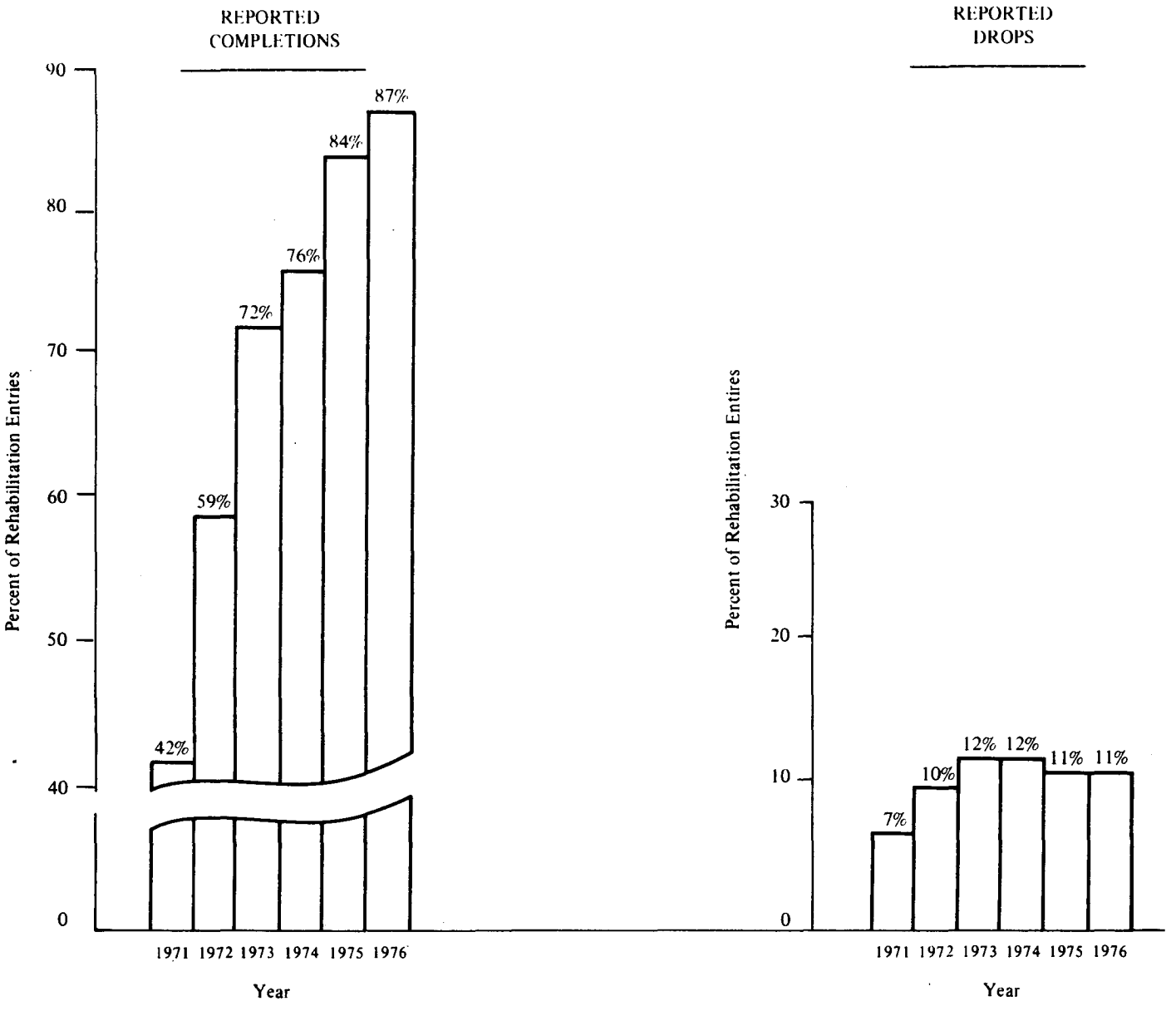


FIGURE 3-14

PROPORTION OF TOTAL DROPOUTS ACCOUNTED FOR BY VARIOUS DRINKER TYPES EACH YEAR (1971-76)

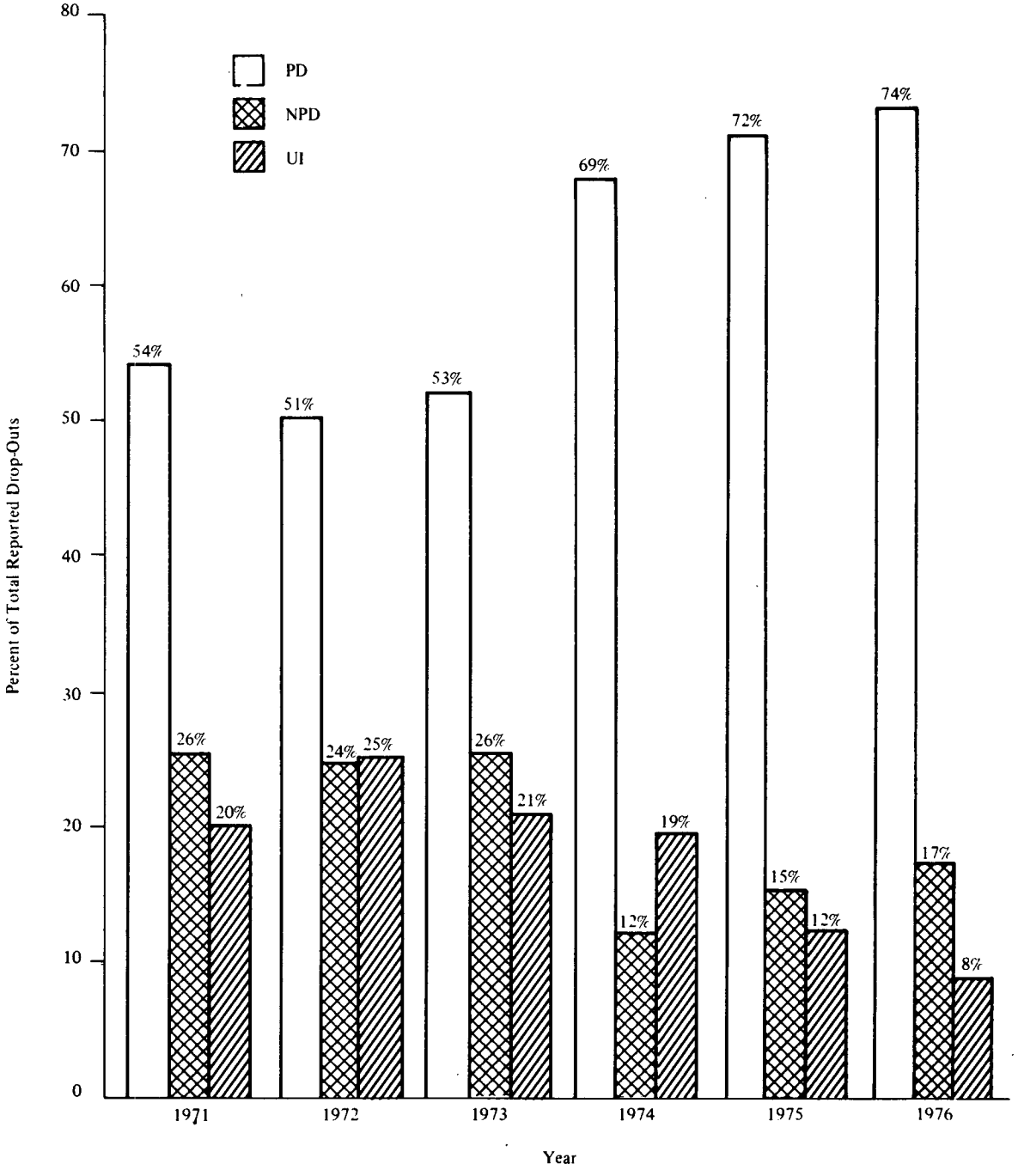
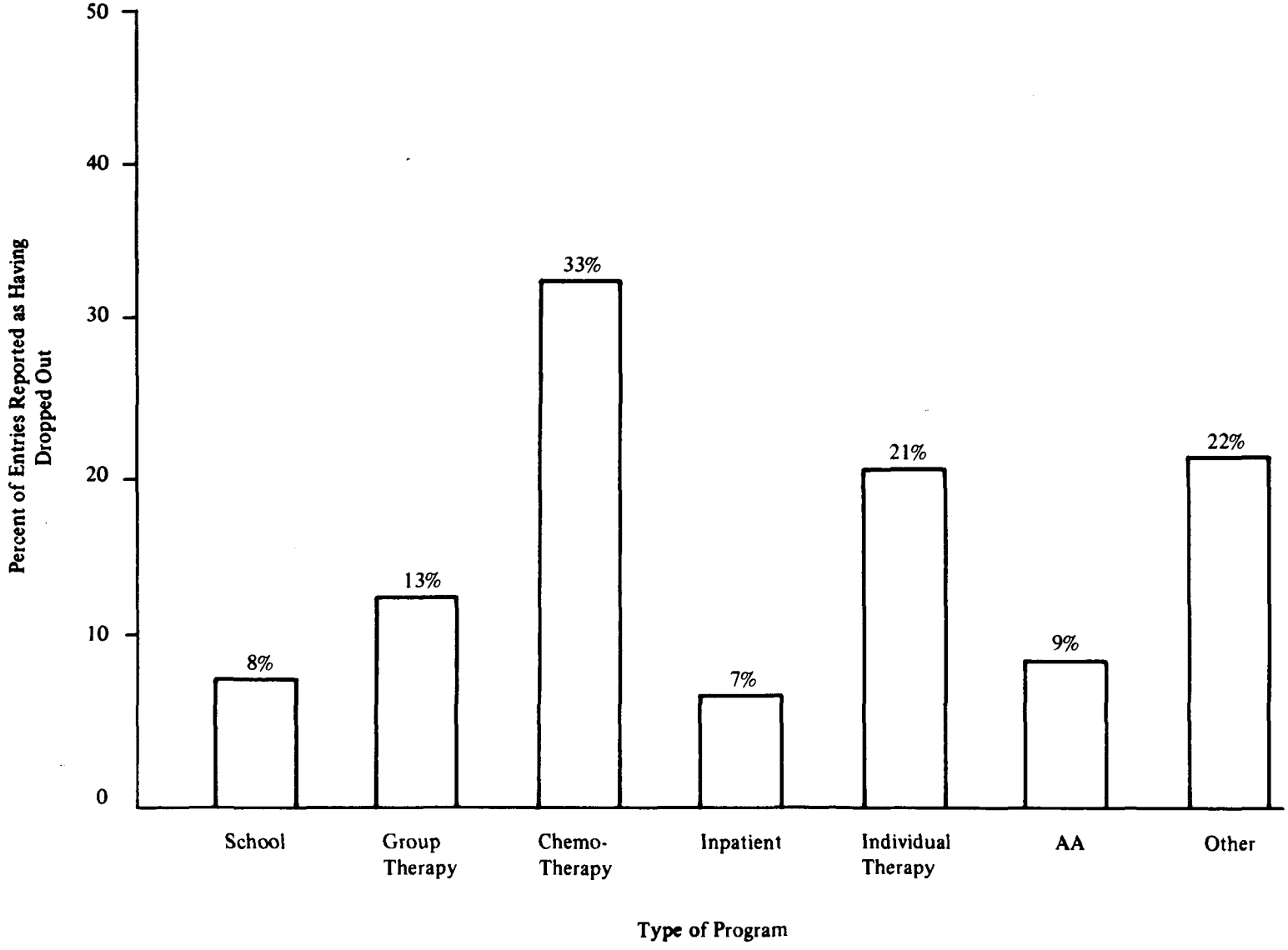


FIGURE 3-15

PROPORTION OF PROBLEM DRINKERS REPORTED AS HAVING DROPPED OUT OF VARIOUS TREATMENT MODALITIES (1971-76)



future alcohol-related accidents. It has been estimated, for example, that less than 5 percent of the drivers involved in fatal alcohol-related crashes have a prior DWI on their record.

It should be noted that only a small percentage of all drinking drivers are arrested for DWI in any given year. Thus, even though these drivers have a higher than average probability of being involved in a serious alcohol-related crash, they are far outnumbered by *drinking drivers* who are *not arrested* for DWI and who also have a higher probability of a crash. Thus, the majority of alcohol-related crashes that occur each year involve a drinking driver who has never been arrested for DWI and who could not have been exposed to DWI education and rehabilitation programs.

On the positive side, there are several social, administrative, and political advantages to including rehabilitation within the larger driver control system (the licensing, enforcement, adjudication, and sanctioning system) which can now be realized. They include the following:

- This approach attempts to deal with the national *drinking* problem, which overshadows the drinking *driving* problem on both an individual and a societal level;
- The driver control system (for DWIs) has proved to be the best way to get people with drinking problems into rehabilitation programs;
- Most communities would not tolerate a high level enforcement/adjudication system (of the magnitude required for effective deterrence) without some provisions for those persons caught up in the system to obtain help for their problem;
- Rehabilitation programs have the potential for alleviating some of the drinking-induced problems of DWIs, as opposed to a penal sanctioning program alone, which may merely compound the problems.

Fortunately, many of these programs can be made financially self-supporting. However, they should always be used in the context of other driver control measures such as improved public information and enforcement if there is to be any significant reduction in alcohol-related crashes.

Q. How effective are education and rehabilitation programs in changing the behavior of DWI's (Compared to those who do not participate in such a program)?

A. Apparently, the education and rehabilitation programs are slightly successful in modifying the drinking and driving behavior of the DWIs with less of a problem. To the extent that they are successful, they may also be cost-effective.

Unfortunately, most of the evaluations have not included comparison groups of DWIs that were not exposed to the program. Others used inappropriate comparison groups in which the DWIs in the education or rehabilitation groups were different (worse or lesser offenders, richer or poorer, more or less educated, etc.) than those in the comparison groups. Because the realistic effects of the programs are not dramatic, these initial differences between the groups often mask or overshadow program effects, if and when they exist.

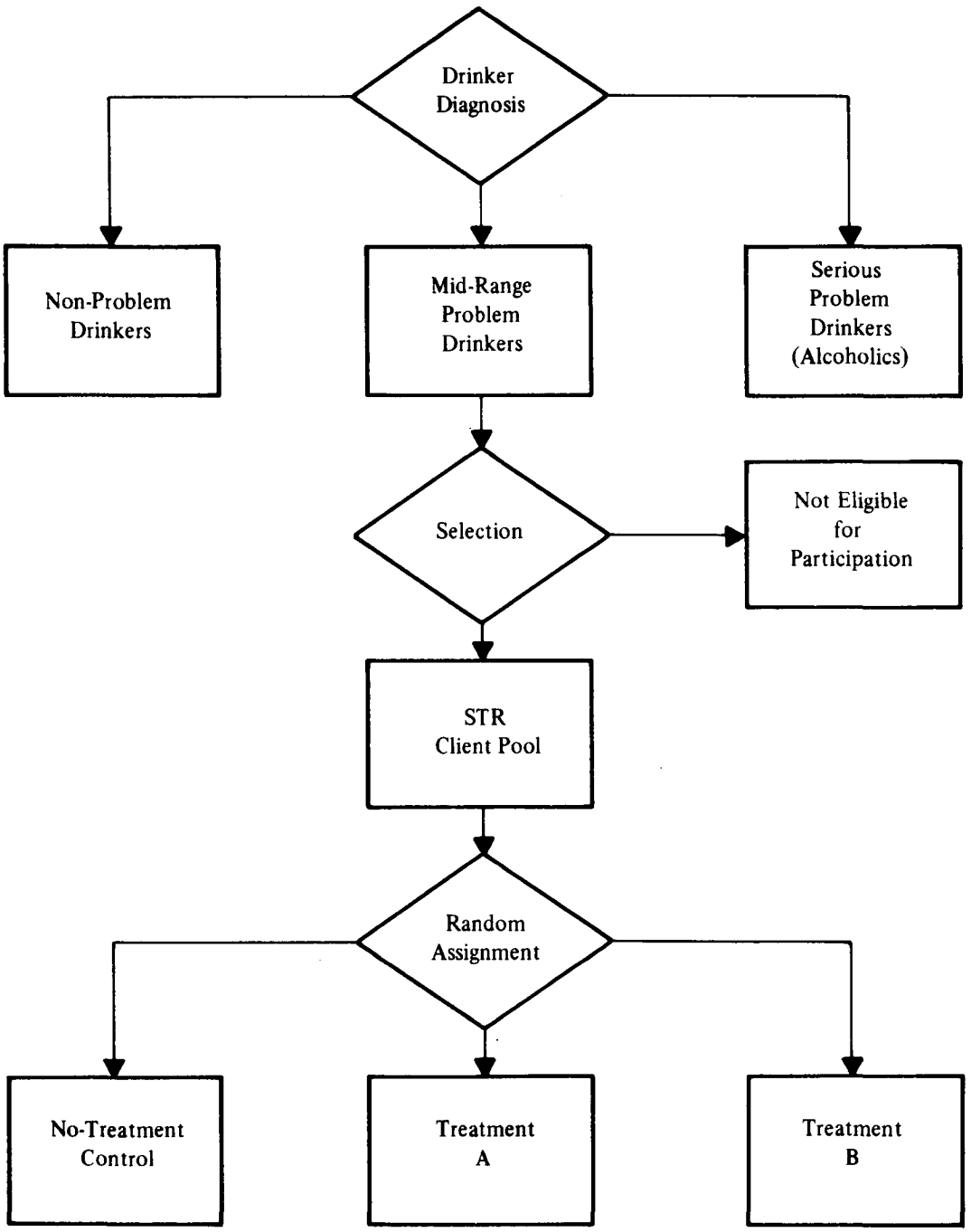
NHTSA has, however, been able to encourage a sufficient number of acceptable studies to gain a reasonable estimate as to the effectiveness of existing programs. Obviously much more work needs to be done, to determine what types of DWIs benefit most from different types of programs. Much of this work is already underway.

In order to describe what is already known, three different sources of data must be considered for both education and other forms of rehabilitation.

- The first source of data consists of the yearly *analytic studies* provided by each project's evaluator covering that site's education/rehabilitation activities. The results of these studies (in terms of a variety of criteria) have been aggregated for an overall picture of effectiveness (or lack thereof). This is called *project level* data.
- The second source of data involves analyses of *aggregated rearrest data* across many sites for persons entering various treatment and non-treatment programs. These data were analyzed by a central evaluator and although persons were not *randomly* assigned to the various comparison groups, the groups are reasonably well matched with respect to severity of drinking problem and thus to the number of prior arrests for DWI. These data have the advantage that they represent large numbers of cases.
- The third source of data is the *short term rehabilitation (STR) study* which was conducted in 11 of the ASAP sties. These data are perhaps the best controlled in that the clients were randomly assigned to the various comparison group (See Figure 3-16). Data were also collected on other life changes, e.g., job status.

FIGURE 3-16

EVALUATION DESIGN OF THE STR STUDY



THE EFFECTIVENESS OF EDUCATION PROGRAMS

ALL DRINKER TYPES REFERRED TO EDUCATION

- Project level data suggested that educational programs can change the drinking driver's *knowledge* of alcohol-related problems and possibly his *attitudes* towards drinking and driving. More than 30 studies (of varying degrees of quality) from 1972 to 1975 suggested that this was the case. Few studies suggested otherwise. It is not known how long such effects last.

- Project level data suggested that educational programs had little or no overall effect in reducing *rearrests* or *crashes* among DWIs exposed to them. While poorly controlled studies often reported positive effects for the schools, well controlled studies more often reported no significant effects in terms of arrests and crashes[1 2 9]. Figure 3-17 illustrates these findings for more than 50 studies over a 3 year period.

NON-PROBLEM (SOCIAL) DRINKERS REFERRED TO EDUCATION

- Program level data suggested that non-problem (social) drinkers who entered rehabilitation programs had significantly lower *rearrest* rates than social drinkers who were not so referred (see Figure 3-18). Since social drinkers were referred almost exclusively to educational programs, this could be considered as evidence that the schools were effective in reducing the rearrest rates for such persons. No similar data is available concerning crash involvement.

- Factor and cluster analyses[2 8 9] of program level data suggested that there were at least three different types of schools, which ranged from the most interaction-oriented (type 1) to the most lecture-oriented (type 3). Survival rate analyses indicated that social drinkers attending any of these types of schools had approximately the same survival (and conversely *rearrest*) rates. Thus, it apparently made little difference which kind of school social drinkers were referred to (see Figure 3-19). There were indications from a project level study[10] that a *home study course was equally* effective.

PROBLEM DRINKERS REFERRED TO EDUCATION

- Program level analyses suggested that problem drinkers entering treatment did not have lower *rearrest* rates than problem drinkers who were not so referred. Again, since more problem drinkers went to schools than to any other form of program, it is highly likely that this result suggests that problem drinkers were not (as a group) helped by such programs. Figure 3-20 illustrates the survival rates for these two groups of problem drinkers.

- In contrast to the experience with social drinkers, it appeared to make a great deal of difference which *type of school* a problem drinker was referred to. Survival rates analyses, over a period of several years and involving thousands of DWI's, have consistently suggested that problem drinkers entering lecture-type schools have worse *rearrest* rates than those entering smaller session size, more interactive types of schools.[8 9] Figure 3-21 points this out quite clearly. It is possible that lecture-type schools may be harmful for this type of DWI. This hypothesis should be further tested.

- The experimental short term rehabilitation (STR) study included only moderate problem drinkers. Results suggested that the alcohol safety schools reduced *drinking activity* for the first six months after program entry, and that some schools resulted in reduced rearrest rates after 12 months of follow-up. Subsequent 12 and 18 month analyses will hopefully indicate such effects.

FIGURE 3-17

RESULTS OF PROJECT LEVEL EVALUATIONS OF THE EFFECTS OF ASAP SCHOOLS IN REDUCING REARRESTS

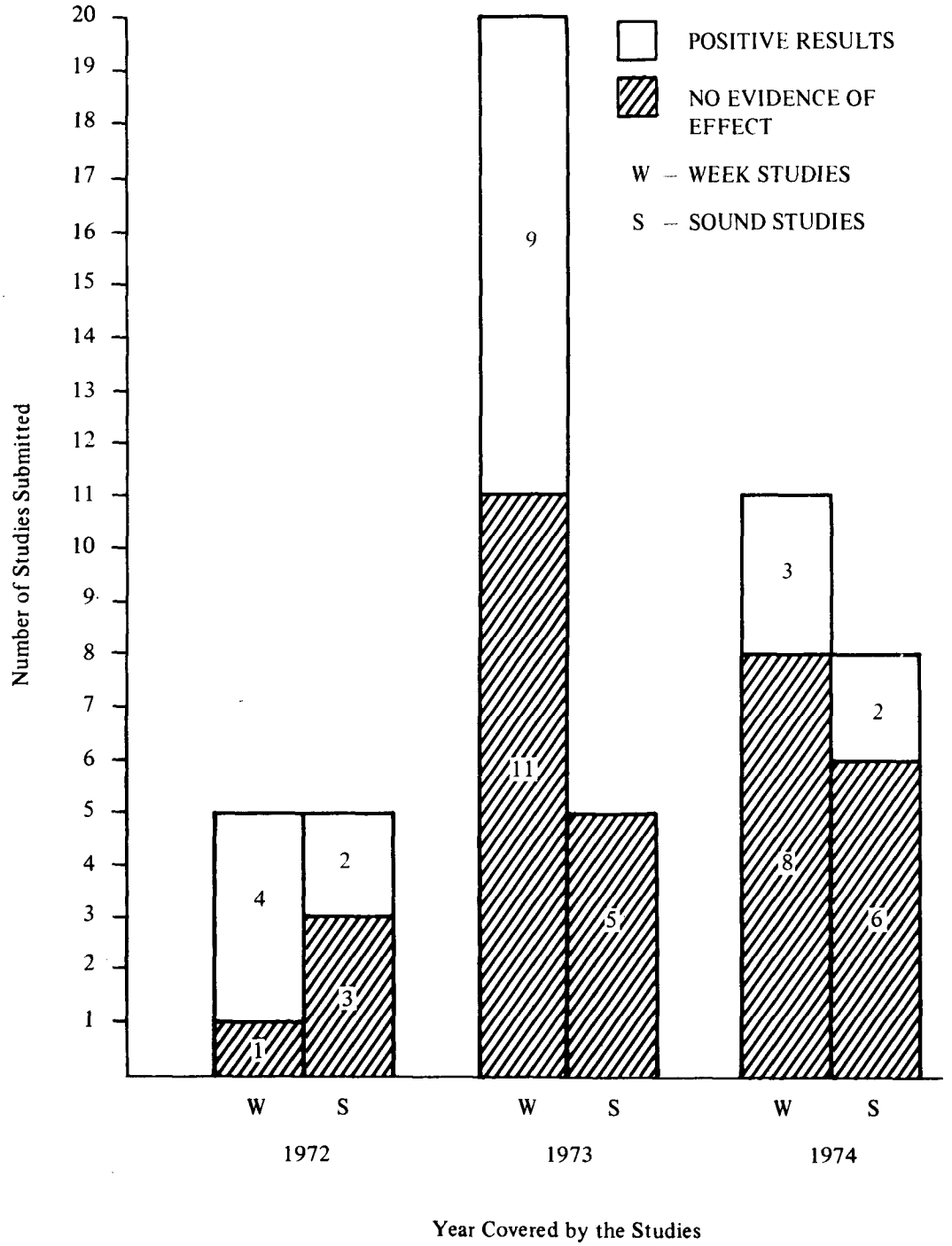


FIGURE 3-18

SURVIVAL RATES FOR NON-PROBLEM DRINKERS ENTERING ASAP REHABILITATION VERSUS THOSE NOT REFERRED
(DATA FROM 13 SITES)

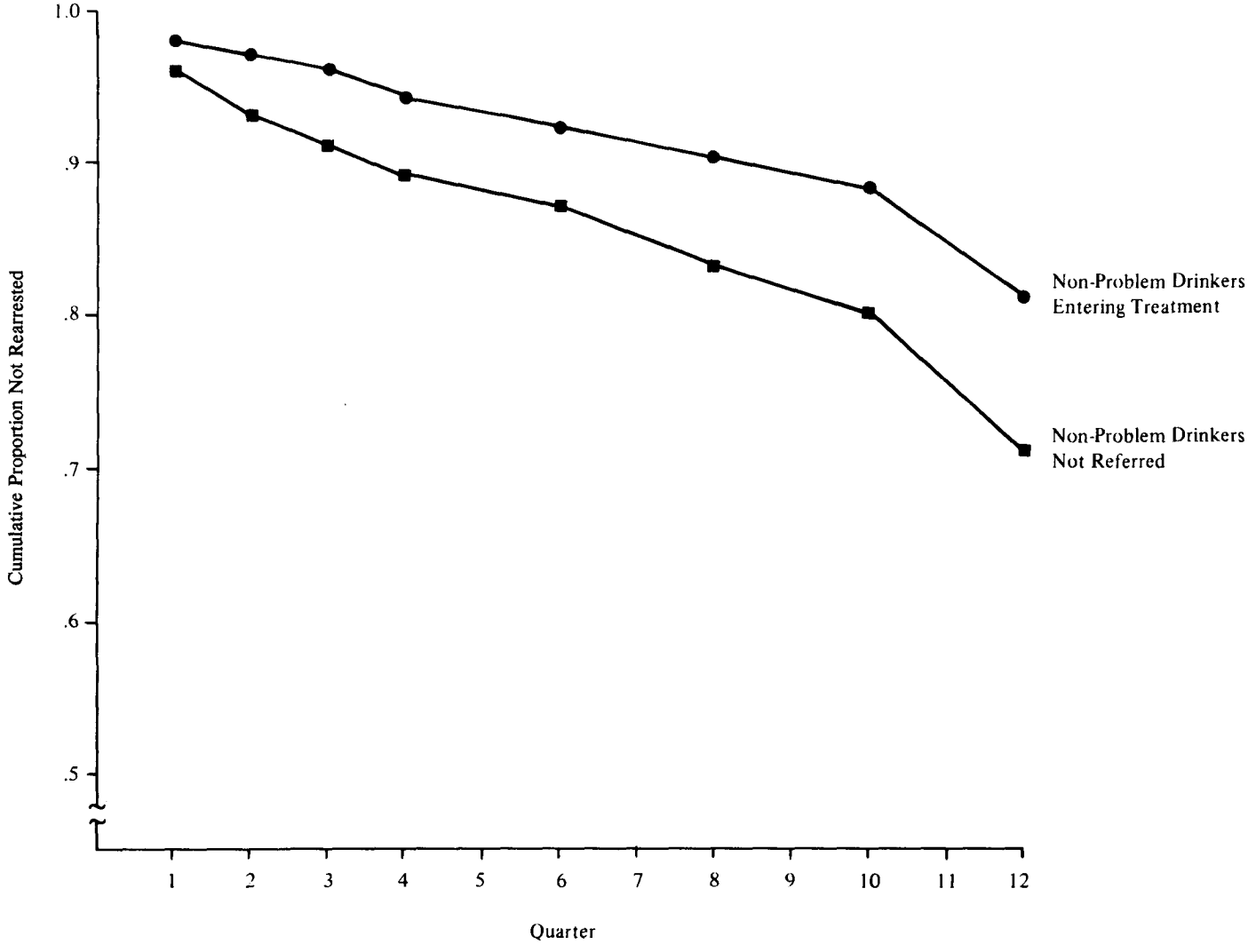


FIGURE 3-19

SURVIVAL RATES FOR NON-PROBLEM DRINKERS ATTENDING THREE DIFFERENT TYPES OF ALCOHOL SAFETY SCHOOLS

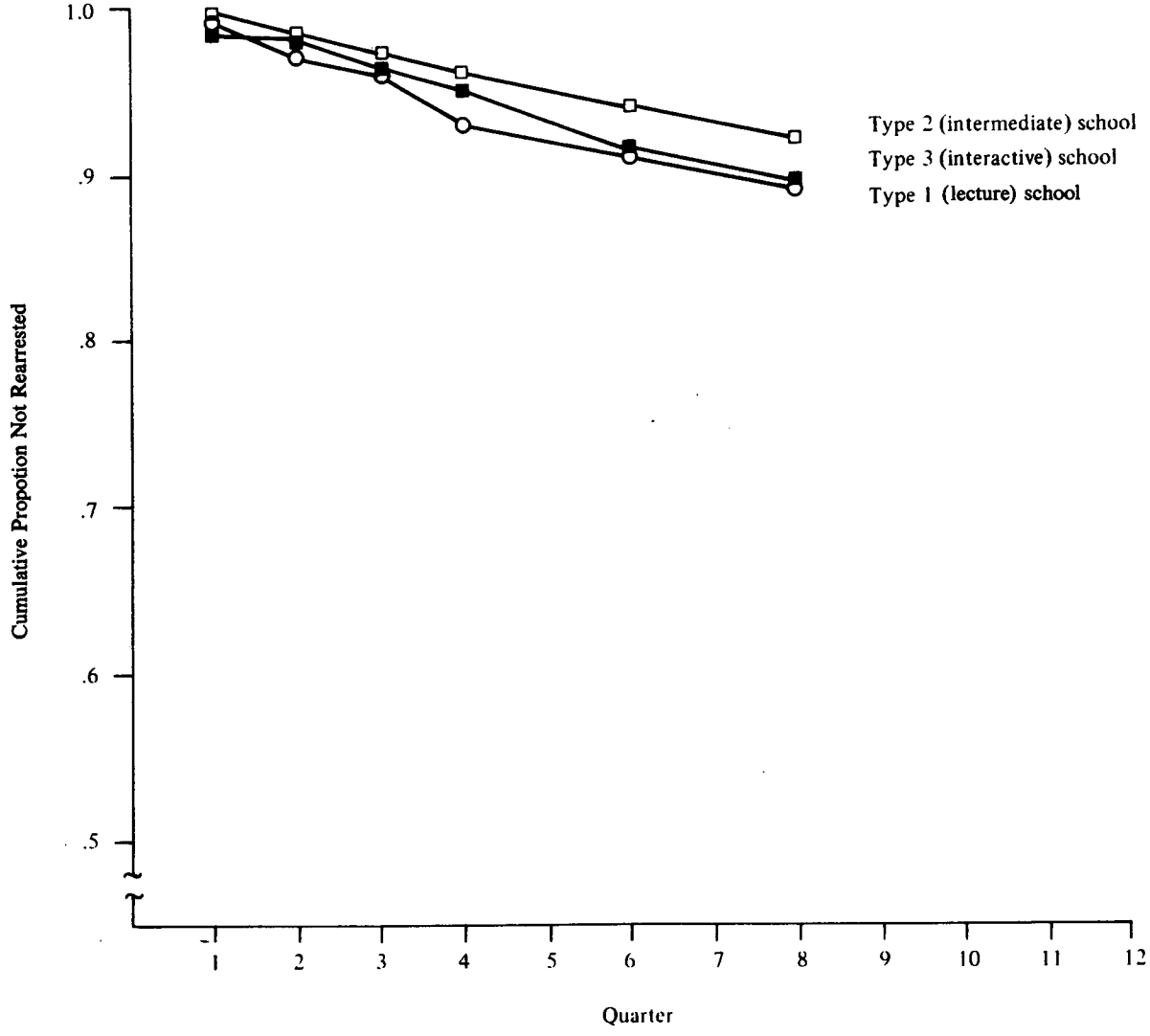


FIGURE 3-20

SURVIVAL RATES FOR PROBLEM DRINKERS ENTERING ASAP REHABILITATION VERSUS THOSE NOT REFERRED

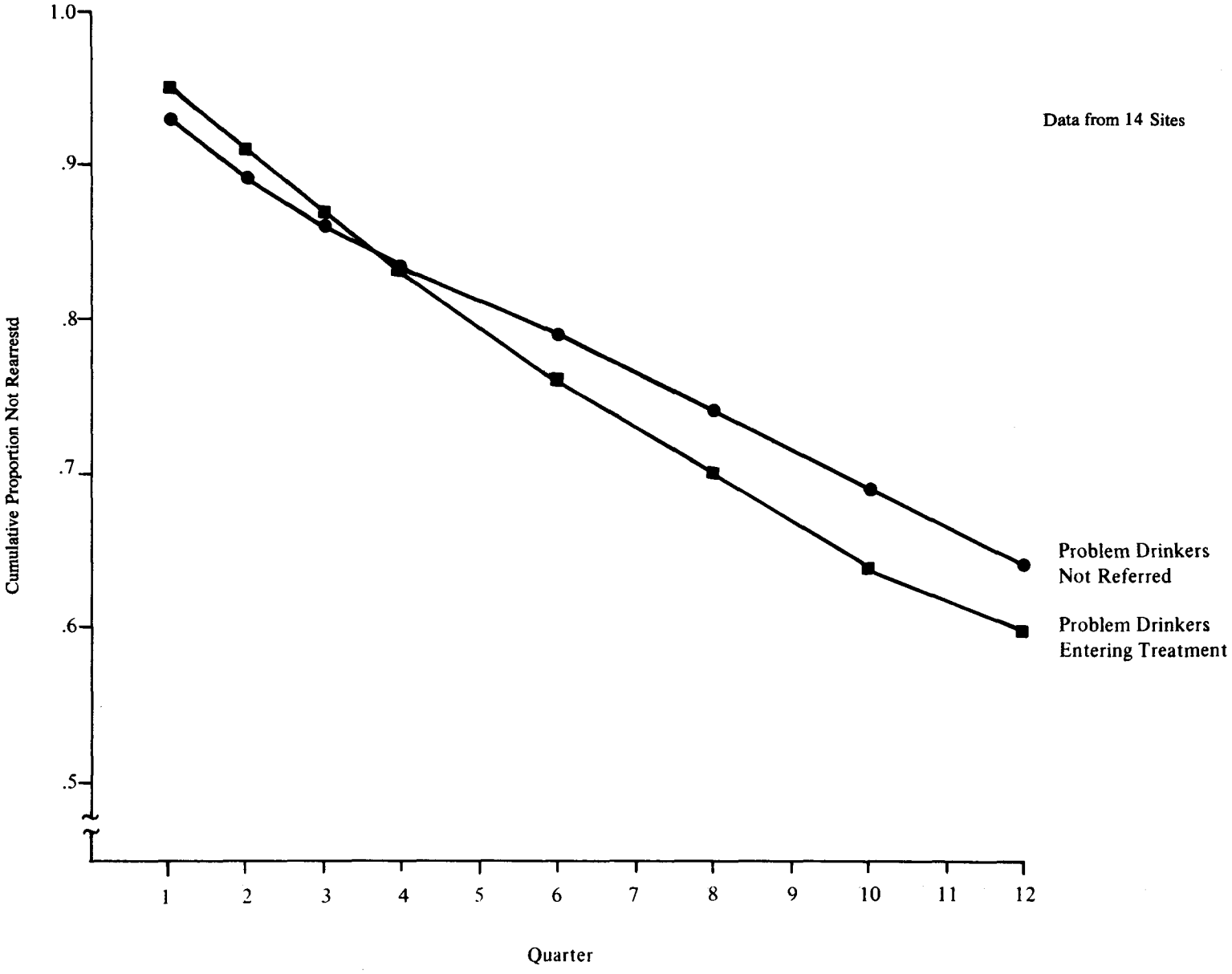
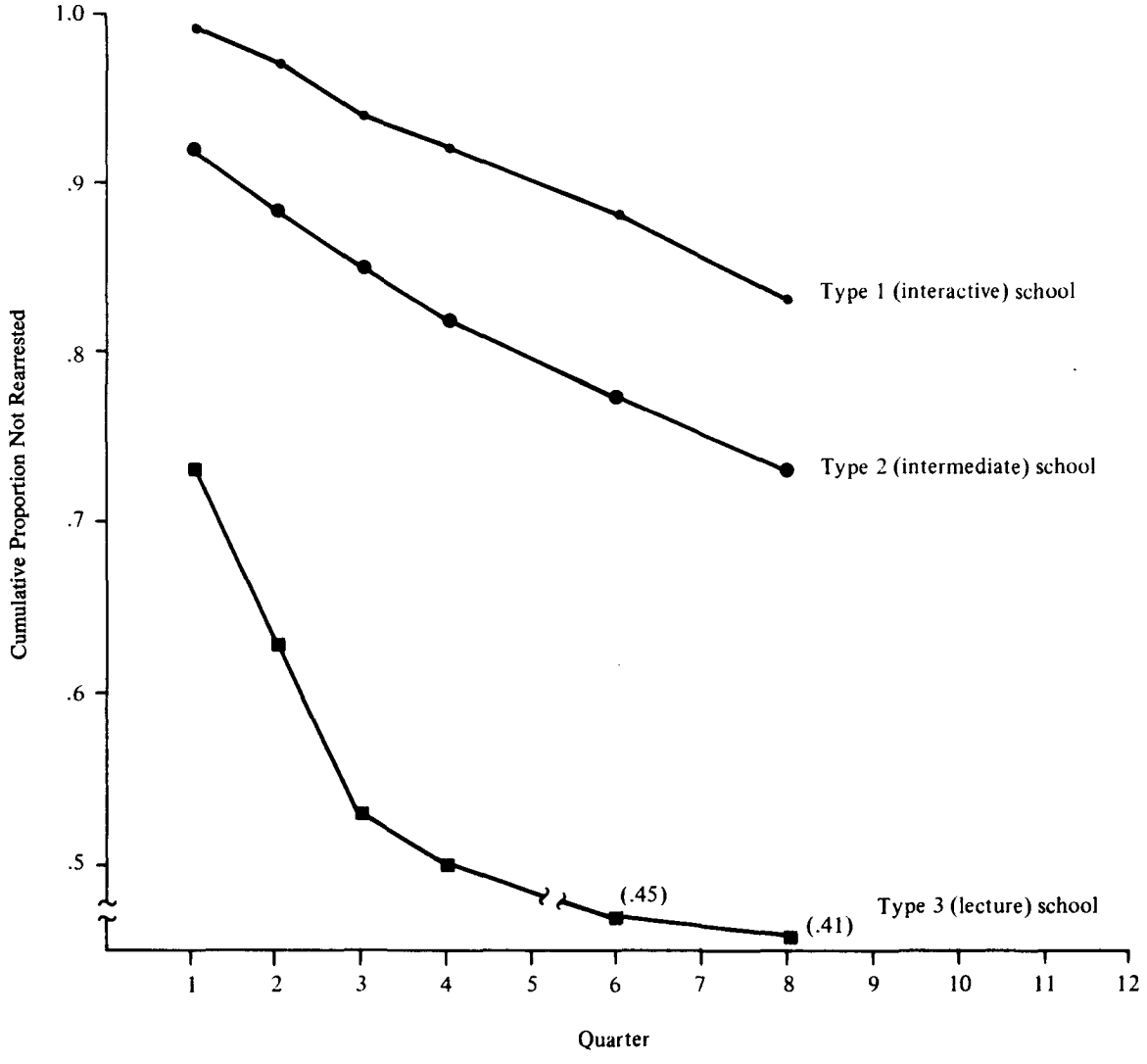


FIGURE 3-21

SURVIVAL RATES FOR PROBLEM DRINKERS ATTENDING THREE DIFFERENT TYPES OF ALCOHOL SAFETY SCHOOLS



THE EFFECTIVENESS OF OTHER (NON-SCHOOL) REHABILITATION EFFORTS

ALL DRINKER TYPES REFERRED TO NON-SCHOOL PROGRAMS

- Cluster analyses were also conducted on the measurable characteristics of the various *non-school* therapy programs for which re-arrest data was available.[9] As a result, two types of non-school modalities were selected for further analysis. Type 1 modalities (24 in number) were characterized by a moderate number of long sessions with an average of 8 clients per session. These were generally the most intensive therapies. Type 2 modalities (22 in number) had more sessions, which were slightly shorter, but averaged more than 18 persons per group. Educational objectives were often a substantial part of these programs.

- Survival rate analyses suggested that persons entering the Type 1 therapies had slightly, but significantly, lower *rearrests* rates than the Type 2 entries for at least one year (see Figure 3-22).

SOCIAL DRINKERS REFERRED TO NON-SCHOOL REHABILITATION

- As previously stated, it made little difference in terms of *rearrest*, which type of program social drinkers were referred to (see Figure 3-23).

PROBLEM DRINKERS REFERRED TO NON-SCHOOL REHABILITATION

- One project level study[9] suggested that clients referred to chemotherapy (disulfiram) had lower subsequent *rearrest/crash* rates did than the control group. The differences were greatest when chemotherapy was supplemented by other therapy. However, a more recent study has placed these earlier findings in doubt.

- Two project level STR reports[11,12] suggested that chemotherapy (disulfiram) reduced *drinking* behavior among those clients while they were participating in that program. However, no *driving-related* effects were noted.

- Program level analyses revealed that problem drinkers who entered the small session size (Type 1) therapies had lower *re-arrest* rates than did those entering the larger session size (Type 2) therapies in spite of the greater number of sessions in the latter[8] (see Figure 3-24).

- The short term rehabilitation (STR) study indicated few positive effects for non-school modalities over a 6 month follow-up period.[5] This may have been due to insufficient time for such effects to surface. However, there were some early indications of *negative* effects for some modalities. Subsequent analyses (to be reported by the end of calendar year 1978) should confirm or reject these trends.

THE EFFECTIVENESS OF OVERALL REHABILITATION EFFORTS

- Project level studies provide some evidence of a positive effect for overall rehabilitation efforts in terms of fewer *rearrest* (see Figure 3-25) but not in terms of reduced *crashes* (see Figure 3-26).

- Program level, survival rate analyses suggested that rehabilitation (as a whole) may have resulted in fewer *rearrests* for social drinkers, but not for problem drinkers (see Figure 3-18 and 3-20). While it seemed to make little difference what kind of programs social drinkers were exposed to (see Figure 3-19 and 3-23), it appeared to make a great deal of difference what kind of programs problem drinkers were referred to (see Figure 3-21 and 3-24). They appeared to do better in non-lecture, small group settings. In fact, a compelling hypothesis to be tested further is that large session size, lecture courses may result in a negative (increased arrests) effect on problem drinkers.

- No aggregated *crash* data was available for analysis of rehabilitation on a program level.

- After 18 months of follow-up, the short term rehabilitation (STR) study suggested positive results in only one area (improved social interaction) for the *overall* treatment group. This may have been a spurious finding since many tests were made and it is likely that at least one would be significant by chance alone.

Q. What kinds of clients appear to be helped most by what kinds of education and/or rehabilitation programs?

A. To begin with, there were some indications from the STR study that nearly all clients showed improvement in some areas of life status—e.g., less drinking, and more social interaction. Since there were few differences between treatment and control groups, it must be postulated that other factors such as the following may have some influence:

- It is likely that the process of arrest, prosecution and conviction to some extent modifies future behavior.

FIGURE 3-22

SURVIVAL RATES FOR ALL PERSONS ATTENDING TWO DIFFERENT TYPES OF NON-SCHOOL TREATMENT PROGRAMS

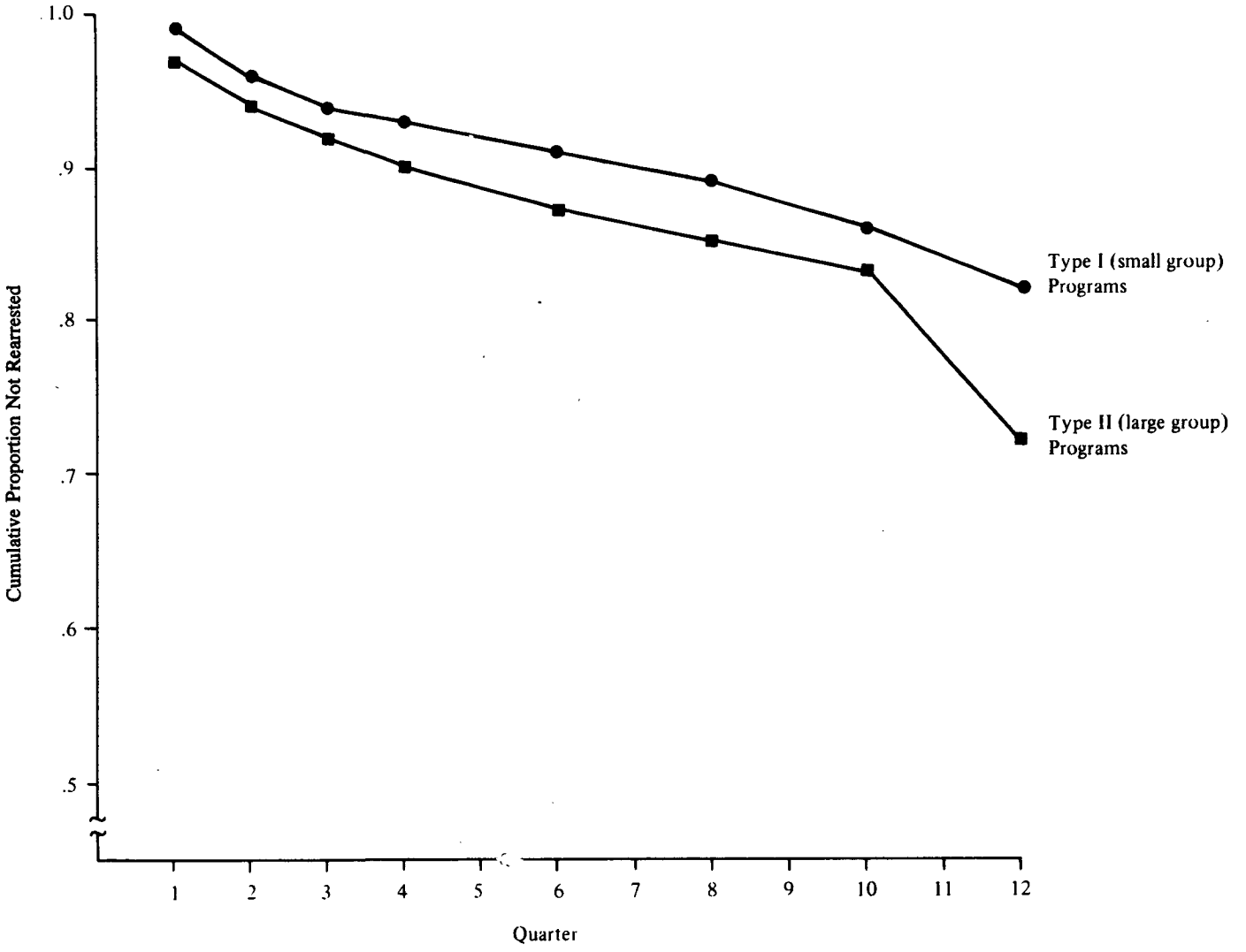


FIGURE 3-23

SURVIVAL RATES FOR NON-PROBLEM DRINKERS ENTERING TWO DIFFERENT TYPES OF NON-SCHOOL TREATMENT PROGRAMS

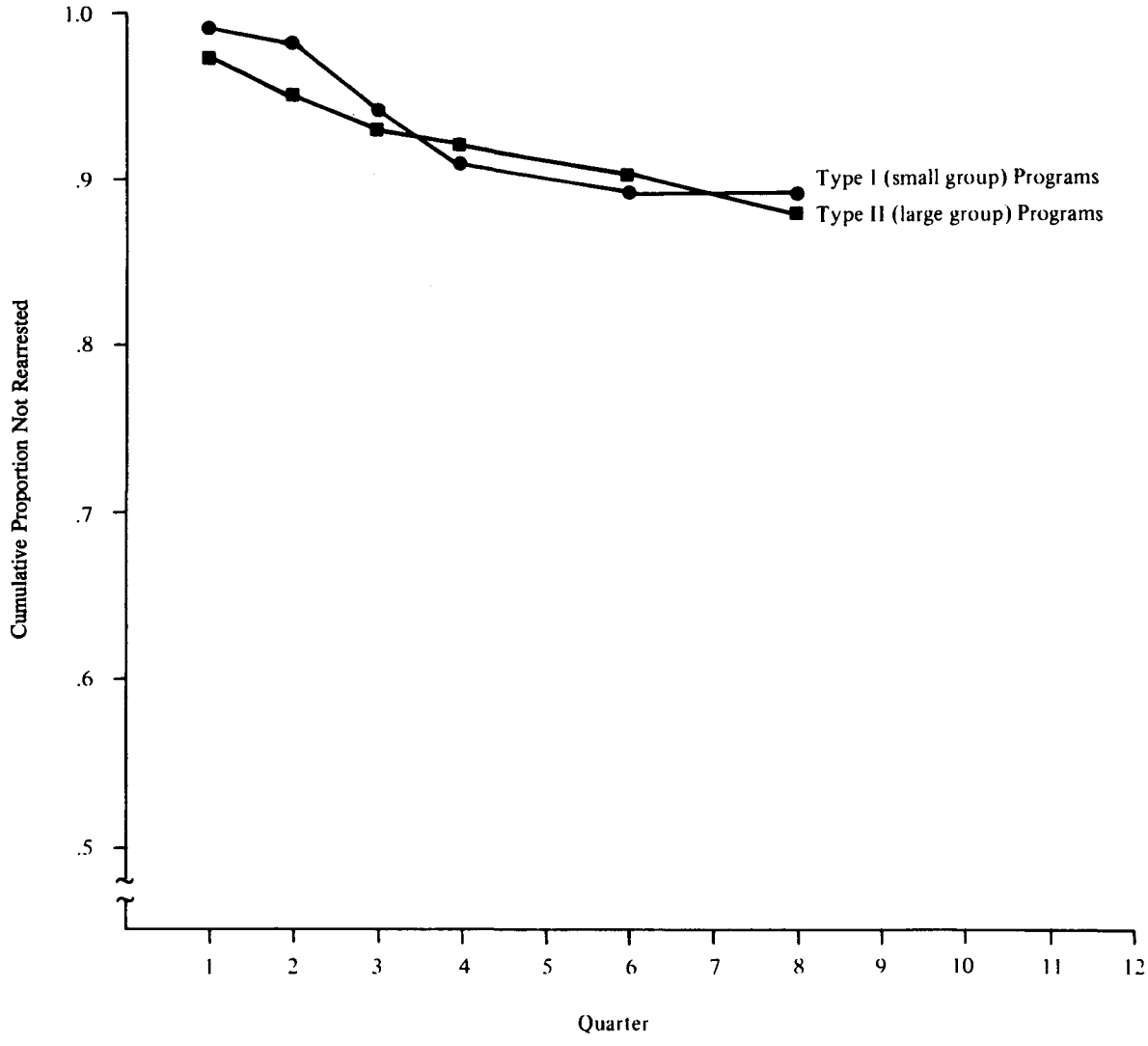


FIGURE 3-24

SURVIVAL RATES FOR PROBLEM DRINKERS ENTERING TWO DIFFERENT TYPES OF NON-SCHOOL TREATMENT PROGRAMS

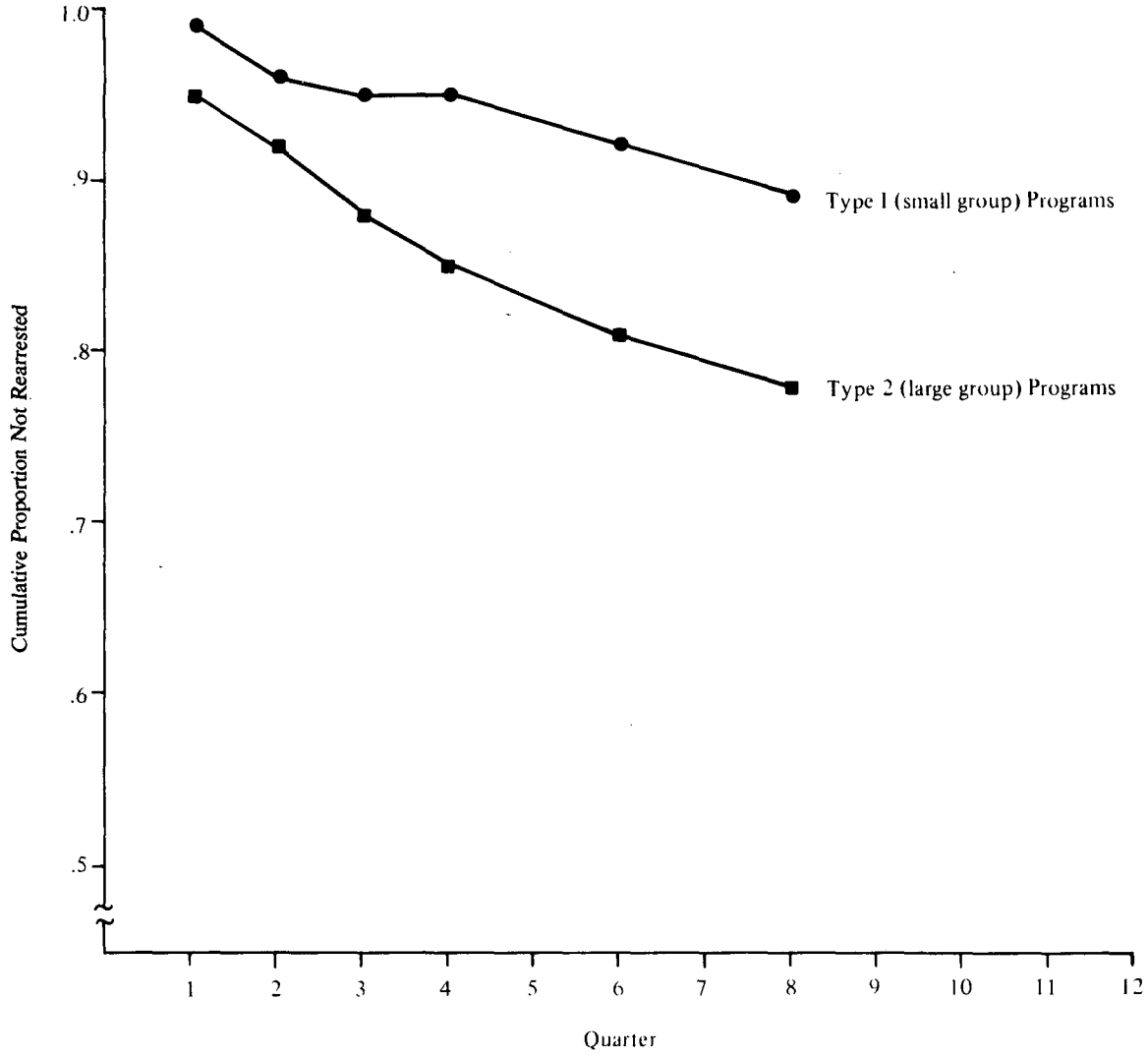
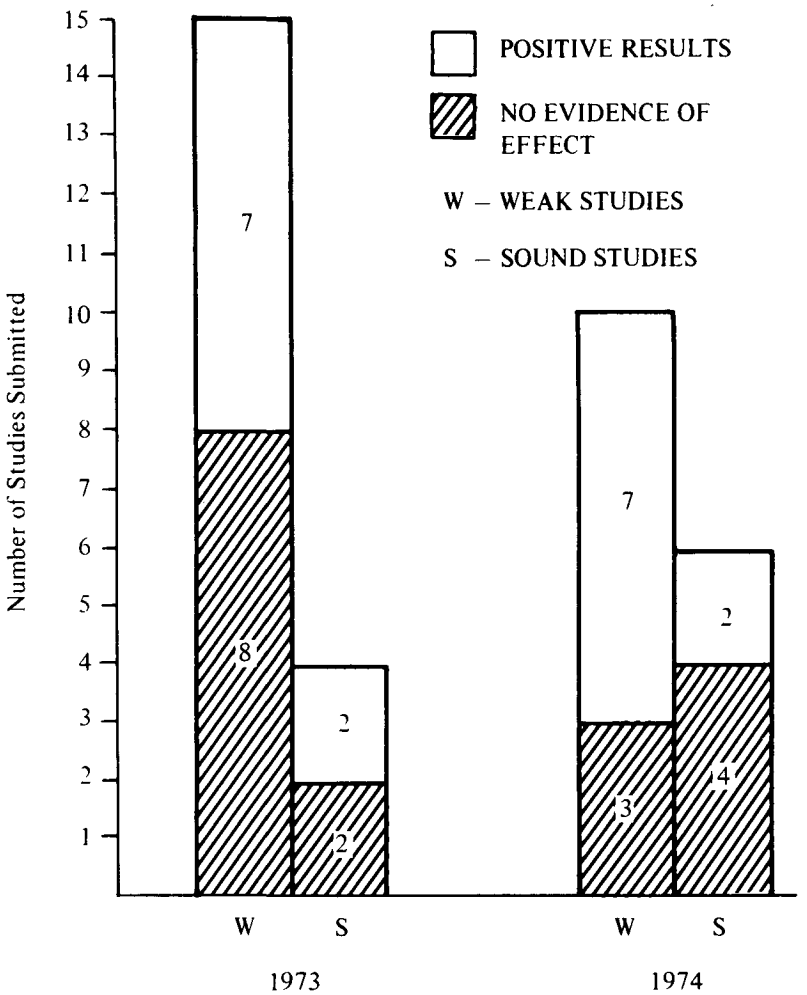


FIGURE 3-25

RESULTS OF PROJECT LEVEL EVALUATIONS OF THE EFFECT OF OVERALL ASAP REHABILITATION IN REDUCING ARRESTS



- It is possible that DWI arrests come at a time when persons are having an inordinate number of temporary problems—e.g., loss of job, or wife. Thus, there would be a natural tendency to improve from this temporary state. This tendency would be independent of treatment effects.

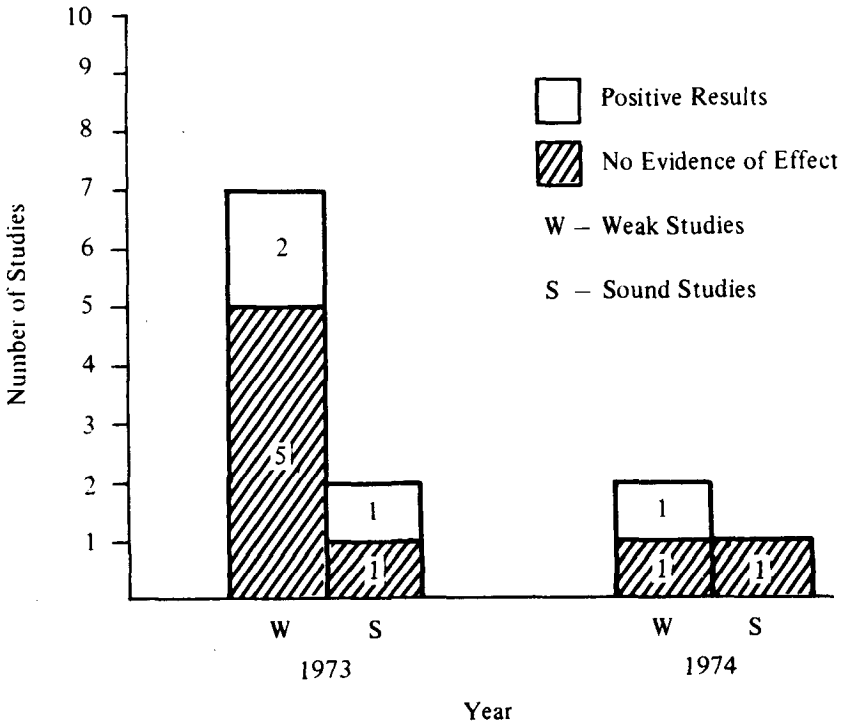
The latter situation is a major confounding factor in the social program evaluation area. It provides another important reason why randomly assigned control groups are so necessary for an accurate understanding of what effects social programs are having.

In spite of the tendency for most DWI's to improve to some extent following entry into a DWI control system, there are indications that some persons benefit more from education and rehabilitation than do others.

- From the analyses already described, it is reasonably clear the *social drinkers* (and, therefore, DWIs with *no prior arrests*, low scores on a diagnostic instrument such as the Mortimer Filkins, and *low BAC* at time of arrest) tend to benefit more from education and rehabilitation than do clients with converse characteristics. It appears to make little difference

FIGURE 3-26

RESULTS OF PROJECT LEVEL EVALUATIONS OF THE EFFECT OF OVERALL ASAP REHABILITATION IN REDUCING CRASHES



what kinds of programs these persons are exposed to, ranging from a home study course (designed to modify knowledge, attitudes and behavior) through various forms of DWI schools, to limited group therapy programs.

- In addition to these observations, data from a number of projects suggested that those not rearrested were more often (a) not divorced or separated; (b) of higher than 8th grade education; (c) better off financially. These characteristics appear to imply that persons with less severe problems overall tend to be helped more by education and/or rehabilitation programs.

- Analysis of treatment completions versus non-completions indicated that similar characteristics (namely, being separated or divorced, having less than a high school education, earning a lower income, having more severe drinking problems, having a higher BAC, higher scores on the Mortimer Filkins and prior DWI arrests) were negatively related to positively completing treatment, just as they were related to the probability of being rearrested.

- An analysis was conducted of rearrests as a function of treatment completers to have slightly higher survival (non-rearrest) rates, but the difference was not statistically significant.

- In addition to the above findings, it is obvious that other characteristics are related to potential treatment success. For example, if a program requires reading ability, illiterates will likely not benefit from the program. If the program is oriented towards the problems of older adults, young DWI's will probably not benefit as much, etc.

- While these are reasonably sensible observations, program administrators should be on guard that common sense is not confused with individual biases. Whenever there is doubt, the way to determine whether or not a particular client type is benefiting from one program or another is to set up an experimental design whereby the hypothesis can be tested by randomly assigning individuals to the various programs in question.

Little is known concerning the relative benefits of various theoretical approaches for different kinds of clients. NIAAA studies have suggested that theoretical orientation may be less important than comprehensiveness and/or intensity and/or duration of the program.

In the STR study, a variety of treatment modalities were included. Comprehensive descriptive information is available concerning these programs. Furthermore, extensive demographic, personality and social record information is available on each anonymous client in the system. Finally,

follow-up information has been collected on more than 15 dependent variables for each client. Analyses of these data should provide the NHTSA with a reasonable indication of what types of relationships (if any) exist between client types and the treatment types included in the study. This is the primary objective of on-going analyses and will be the subject of a report at the end of calendar year 1978.

Q. Can any type of alcohol safety school be recommended at the present time?

A. At present, it is not possible to recommend a "model" curriculum based upon scientific study. However, some recommendations emerge from the analysis of data presented above as well as from an overview of the schools which existed at all projects.

a. A community would benefit from having two types of alcohol safety schools if they are to be used for both social and problem drinkers. The school intended for social drinkers should be lecture-oriented and brief. The problem drinker school should be more interaction-oriented, longer, and have fewer than 12 persons per session. While social drinkers may be sent to either school without harm, problem drinkers should not be sent to the lecture type school, which may actually be harmful to them.

b. Client-paid schools (with provisions for the poor) should be encouraged.

c. A basic qualification for a prospective instructor should be his ability to deal with people. It is not necessary to have doctors, police, judges, or university teachers as instructors, although they may be useful in a guest role.

d. The subject-matter of most alcohol safety schools should include the following:

- *Alcohol as a risk factor:* including general safety issues, impairment of performance ability (skills and attitudes), BAC and degrees of impairment.

- *Alcohol as a health issue:* including alcoholism, abusive drinking, effects on health and well-being, controlled and social drinking, effects on lifestyle and psychological well-being (especially employment and family).

- *Alcohol as a legal issue:* including the arrest and adjudication system, court expectations for current and future behavior, and the consequences of a rearrest.

- *Ways to avoid drinking and driving situations:* What led to the current DWI and other episodes of drinking and driving, and how such situations can be avoided.

e. Attendance must be monitored. Since the school is an important, court-imposed sanction, it must retain its credibility by required attendance in a state of sobriety. However, flexibility in the hours during which the school is offered, the number of occasions on which it is offered, its location or locations, and the availability of "make-up" classes are important considerations that should be included in the program.

f. Isolation of the school from the rest of the system should be actively avoided. The tendency to set up a school and then not maintain communication with it should be guarded against by creating a strong information flow to probation officers and/or judges, by involvement of these persons in the program, and by as much attention to individual cases as possible.

Q. How important is evaluation to the diagnosis, referral and rehabilitation system?

A. It is obvious from the above findings that evaluation is a critical requirement for continued progress to take place in this area.

Education and treatment programs must receive continuous, well-designed evaluations of their effectiveness. Effectiveness should be measured in terms of relevant driving behavior, such as arrests and crash involvement. Simple longitudinal studies, emphasizing pre-course versus post-course changes alone, are *not* acceptable. The use of control groups and random assignment to "treatment" and "control" groups should be used.

Effectiveness evaluations should also measure changes in life status, e.g., job, health, and family, in addition to traffic safety criteria (violations and crashes). This is for at least two reasons. First, driving-related problems comprise only a small proportion of the total alcohol-related problems of a problem drinker. Second, recovery from alcohol-induced problems is a long, difficult process in which gradual stages of improvement may be visible.

Ineffective programs should be modified and re-evaluated, not necessarily discontinued. Hopefully, evidence will surface to suggest which factors within the program should be changed to ensure effectiveness. Program modification coupled with continued evaluation will be necessary if rehabilitation approaches are to improve—as they surely must.

It is clear that most of the schools and other referral options presently being used by courts across the nation are minimally effective in actually modifying relevant drinking and driving behavior. Rigorous evaluation is the only way in which truly significantly progress can be made in improving this area. No learning is likely to occur if accurate information regarding present program effectiveness is not available. Without the pressure offered by objective evaluation efforts, there is little incentive (or direction) for educators, therapists, or administrators to modify their existing programs. Management of DWI rehabilitation programs by means of evaluation is the most logical way of promoting progress in this area. This type of rigorous evaluation effort, however, is still the exception rather than the rule. Progress in improving program effectiveness will likely be hampered until this situation changes.

Conclusions

The ASAP diagnosis, referral and rehabilitation system has gone through an important evolutionary process during which considerable changes have taken place. Diagnosis of drinking problem severity has become an accepted and important support mechanism of DWI court proceedings, and the subsequent referral of those DWI's to rehabilitation has become common place. Additionally, the courts have been accepted by the rehabilitation field as a legitimate and prolific case-finding mechanism.

In response to an increase in caseload, new treatment programs have been developed that are geared towards a non-alcoholic drinker population. The most prevalent of these programs are the alcohol safety schools, which offer self-supporting, potentially effective alternatives for persons diagnosed as non-problem drinkers.

Rehabilitation should not be *substituted* for license actions. Despite the persons who continue to drive after their licenses have been suspended or revoked, there is a substantial proportion (estimated to be about 30 percent) who do not. What results from such actions is a significant reduction (approximately 30 percent) in this group's exposure to driving and to possible crash involvement. No rehabilitation program, to date, has demonstrated a similar potential for reducing crash involvement. Additionally, there are indications that those persons who drive while their licenses are suspended or revoked (while being potentially the highest risk drivers) drive much more carefully than usual out of fear of being detected. Unfortunately, the impact of this potential behaviour change on crash involvement has not been adequately evaluated.

Any positive effects resulting from license suspension or revocation—no matter how slight—should not be foregone by eliminating such practices in favor of an innovative but unproven measure, such as education and rehabilitation.

Similarly, license suspension and revocation should not be used instead of education and rehabilitation alternatives. Together, these approaches have the potential for *adding to* the effectiveness of the total system.

It must be recognized that socially relevant *negative* side-effects also result from DWI arrests, fines and license suspensions. Some of these effects include increased financial burdens, loss of jobs, family disruption and a general deterioration in the quality of life for those involved. While the safety of all road users must be foremost in mind, the ideal solution is one in which the greatest amount of social benefit can be derived. With this in mind, penal sanctions must be designed so that they provide maximum deterrence without reducing enforcement efforts, increasing congestion in the courts (through increased "not-guilty" pleas and jury trials), alienating public support and unnecessarily damaging the lives of offending drivers and their families.

To licensing actions, incentives and/or coercive measures should be developed to ensure participation in education and treatment programs. In addition to licensing actions, the present trend to use the suspension of licensing actions as the sole incentive for encouraging participation in such programs is much too prevalent and much too dangerous. In addition to the possibility of increasing crashes by increasing exposure, licensing agencies are finding themselves increasingly vulnerable to liability for crashes caused by *known* problem drinking drivers whose licenses have not been suspended or revoked. It does the rehabilitation area no good to be placed in a vulnerable situation where such crashes can be blamed on the substitution of rehabilitation for licensing action.

Compromise licensing actions *may* provide the answer to this dilemma. More programs should be developed and evaluated where restricted licenses, which allow DWIs to drive only during certain times, e.g., daylight hours, and only on routes between specified locations, e.g., to work and/or rehabilitation facilities. Such compromises may also be used as incentives for rehabilitation program entry.

References

1. U.S. Department of Transportation, *Alcohol Safety Action Projects–Evaluation of Operations–1972, Volume II Detailed Analysis*, Chapter 6, Evaluation of the Rehabilitation Countermeasures Activities; NHTSA Report No. DOT-HS-800-874, 1974.

2. U.S. Department of Transportation, *Alcohol Safety Action Projects–Evaluation of Operations–1974, Volume II, Detailed Analysis*, Chapter 5, Evaluation of the Rehabilitation Countermeasures Activities; NHTSA Report No. DOT-HS-801-729, 1975.

3. Mortimer, R.G., Filkins, L.D., Lower, J.S., Kerlan, M.W., Post, D.V., Mudge, B., Rosenblatt, C. Court Procedures for Identifying Problem Drinkers:

   — Report on Phase I
   — Volume 1: Manual
   — Volume 2: Supplemental Reading
   — Volume 3: Scoring Keys
   — Phase II

   Contract Number FH-11-7615, U.S. Department of Transportation, National Highway Traffic Safety Administration, Washington, D.C. 20590.

4. Struckman-Johnson, D.L., and Mushill, E.F., Program level evaluation of ASAP diagnosis, referral and rehabilitation efforts: Volume II, Analysis of ASAP Diagnosis and Referral and Rehabilitation Efforts: Volume II, Analysis of ASAP Diagnosis and Referral Activity. NHTSA Contract No. DOT-HS-191-759. National Technical Information Service, Report No. DOT-HS-802-043. Springfield, Virginia 22161, September 1976.

5. Ellingstad, V.S., and Struckman-Johnson, D.L., Short-Term Rehabilitation Study: Interim Analysis of STR Effectiveness. NHTSA Contract No. DOT-HS-6-01366. National Technical Information Service, Report No. DOT-HS-802-569, Springfield, Virginia 22161, June 1977.

6. Mushill, E.F., and Struckman-Johnson, D.L., A reassessment of diagnostic screening procedures. Human Factors Laboratory, University of South Dakota, Vermillion, South Dakota 57069. Paper presented at the 1977 National Council on Alcoholism's Annual Forum, May 1977.

7. Jacobson, G.R., *The Alcoholism's: Detection, Assessment, and Diagnosis*. Supported in part by NIAAA contracts No.'s PLD-5630-74 and PLD-0884-75. Human Sciences Press, New York, New York, 1976.

8. Nichols, J.L., and Reis, R.E., One Model for the Evaluation of ASAP Rehabilitation Effort, NHTSA. National Technical Information Service, Report No. DOT-HS-801-244, Springfield, Virginia, 1974.

9. Ellingstad, V.S., and Springer, T.J., Program level evaluation of ASAP diagnosis, referral and rehabilitation efforts, Volume III, Analysis of ASAP Rehabilitation Countermeasures Effectiveness. NHTSA Contract No. DOT-HS-191-3-759. National Technical Information Service, Report No. DOT-HS-802-044. Springfield, Virginia 22161, September 1976.

10. Swenson, P.R., and Clay, T.R., An analysis of drinker diagnosis, referral and rehabilitation activity, ASAP Phoenix, Arizona NHTSA Contract No. DOT-HS-052-1-068. June 1977.

11. Glauz, W.D., and Sharp, M.C., An analysis of diagnosis, referral, rehabilitation and probation, ASAP Kansas City, Missouri. NHTSA Contract No. DOT-HS-077-1-100, July 1977.

12. Duffy, J., and Herbert, C.J., New Orleans ASAP analytic study pre-sentence investigation and rehabilitation. NHTSA Contract No. DOT-HS-059-1-076. June 1977.

IV Public Information and Education

Background

Public Information and Education (PI&E) campaigns have long been a backbone of highway safety efforts. Campaigns promoting safer driving have been characteristic of our culture since the 1920's and many professional and voluntary organizations regard them as their main field of endeavor. In the area of alcohol safety, the theme for many years had been a message—"If you drink, don't drive"—aimed at the general public. Though usually bolstered by factual information, the message was more exhortatory than educational, and it was not aimed at either a specific target group or at precise behavioral changes. It was not enough. Though it kept the subject of alcohol safety in front of the public, opinion was that it did not deter drinking drivers. Several jurisdictions therefore experimented with short term, fear-of-arrest campaigns, especially over holidays, and others used powerful fear-of-accident approaches emphasizing the likelihood of a bloody accident. Evaluations showed, however, that such campaigns had either no positive effects or very temporary effects; the threats did not maintain their credibility.

In 1971, therefore, the Alcohol Safety Aetion Program knew that other messages and techniques would have to be added to the usual themes of PI&E, and that an effective PI&E campaign should be designed at least as scientifically as those of commercial advertisers. By 1977, both the Program at the national level and the projects at the local level had developed several new approaches, tested them, evaluated them, and established a reasonably scientific approach to the issue of alcohol safety PI&E on the basis of which future campaigns could proceed with some confidence. In addition, a fund of new materials had been created and are available in a range of media and techniques that did not previously exist.

Approach

PI&E was always intended to support other program countermeasures. Each project spent only about 8.5 percent of its funds on this countermeasure, and though the PI&E campaigns were highly visible, no project experimented with using only a PI&E campaign. The issue throughout was: How can a PI&E campaign best support the systems approach to the control of drinking drivers?

At the beginning of the projects, this question was answered by means of four general objectives:

I. Establish the problem of alcohol-related crashes as a higher priority among community concerns.

II. Develop support for the hypothesis that the relatively small segment of the driving population that abuses alcohol can be effectively controlled.

III. Make key officials and professional groups (police, judges, doctors, etc.) aware that two-thirds of the drunk driving fatalities involve problem drinkers rather than social drinkers.

IV. Inform key officials, professionals, and the public about modern countermeasure methods.

All four were aimed at producing information that would motivate individuals toward action. They also specified target groups. And none of the objectives could be achieved by one simple "message" such as "If you drink, don't drive." Two of the four were aimed directly at the decision-makers who are responsible for community systems for controlling drinking drivers. All four emphasized the problem drinking drivers, who were the special target of ASAP countermeasures. Significantly, all four were aimed at supporting the projects in their early attempts to implement the new countermeasures, and they remain appropriate objectives for the early phases of any project.

NHTSA's primary objective was to encourage projects to develop and evaluate their own materials, with guidance from simultaneously acquired national level experience. This combination enabled a swift reorientation of PI&E campaigns as the projects became established and needed to move on to other objectives. Thus, in the later stages of the projects, four very different objectives assumed paramount importance. They specified target groups much

more precisely, and they specified the behavior desired from the target group.

For example, the projects learned that young drivers are an especially high-risk group in terms of alcohol safety, and therefore one Program objective was to concentrate educational efforts on young drivers. Or again, when it became clear that PI&E campaigns could not have much effect on drivers who frequently drink too much, it seemed more productive to concentrate on the "significant others" who might be able to prevent such persons from driving when drunk. The message aimed at that target group specified exact forms of behavior, both physical and verbal, which people could adopt "to prevent intoxicated individuals from driving." Campaigns were developed for subgroups within the general group: hosts, bartenders, friends, spouses. The intent was not only to make these people feel that they ought to do something, but also to know exactly what they should do. At the same time, the general campaign continued, but by now precise methods were specified for knowing whether the message was getting through to the general public: "Make excessive drinking and driving a social issue by stimulating discussions between individuals within peer groups, which calls attention to and defines excessive drinking and driving as anti-social behavior." Reflecting the general success of projects in implementing countermeasures, there was now only one major objective concentrated on members of the local control system: "Continue to seek support for all countermeasure programs and encourage groups and individuals to obtain implementation of those programs in their own communities."

The thrust of the campaign was therefore to support all actions of the local system in two ways: (1) by educating members of the system on how best to organize themselves for the greatest impact on the high-risk drivers; and (2) by educating the public as to actions to take against high-risk drivers. The approach risked making villains of the problem drinkers, but the risk was avoided by the tone of the campaigns and by cooperation at the national level with NIAAA. Furthermore, once this basic approach was established, individual projects were free to add other messages, and several experimented with and evaluated fear-of-arrest or fear-of-punishment campaigns, and others.

NHTSA and the projects used many combinations of media to convey their messages. The following are examples of the communication activities undertaken and materials generated:

- *Mass Media.* Projects produced their own materials for television, radio, newspaper, direct mail, and magazines. They also produced brochures, transit posters, billboards, and films. These materials were based on themes such as "knowledge of alcohol impairment facts," "fear of arrest," and "personal intervention in potential DUI (Driving Under the Influence) situation." Most of the materials are still available for use as models by other jurisdictions. Of special note is a catalog of materials available through NHTSA's Technical Services Division.

- *Special Collateral Materials.* Most projects produced a variety of special materials to inform the public about alcohol impairment. These included BAC calculators, cards, newsletters, posters for buses/vans, litter and shopping bags, bottle caps, breath testers, bumper stickers, coasters, calendars, decals, displays, poster holders, standing exhibits, key chains, matchbooks, placemats, and taxi signs.

- *Public Relations Campaigns.* Press releases, press kits, press conferences, interviews, feature stories, media presentations, and media placement were conducted at the time ASAP was established and whenever there was an event of local significance.

- *Special Target-Group Campaigns.* Educational efforts aimed at various identifiable target groups used national and/or local materials. Some campaigns were aimed at drinking drivers in general while others reflected the national and local priority on youth. Noteworthy activities included promotion of the NHTSA model curriculum for K-12 students in local schools, development of the first Spanish translation educational materials, and design of packages for driver licensing authorities to use or distribute.

- *System Design Meetings.* Most projects held frequent meetings with the decision-makers responsible for implementing countermeasures: police, attorneys, judges, public health and medical personnel, community agency staff, city management, etc. Meetings took the form of advisory boards, conferences and workshops of subgroups aimed at identifying and solving problems, and informal meetings between personnel in various countermeasure areas. In particular, NHTSA funded project planning meetings and seminars for prosecutors, judges, and presentence/probation staff conducted by private contractors.

- *Press Education.* Several projects made a special effort to educate the press about the drinking driving problem as a means of averting uninformed criticism of ASAP activities.

- *National-Level Campaigns.* NHTSA provided the opportunity for each project to participate in special programs at little or no extra cost. Advertising spots, with local tags, were used by most projects and remain available for general use. These materials were also distributed directly to the top 100 television and radio markets, as we as newspapers and magazines. In particular, during 1974 and 1975, NHTSA produced a series of award winning mass-media

materials for general and youthful audiences built upon the general theme "Friends Don't Let Friends Drive Drunk." NHTSA also sponsored numerous special events such as the "Prestige Personality Tour" in which recognized personalities visited the sites for several days as a spokesperson for the projects. A NHTSA Coordination Center maintained a library of educational materials and assisted in distributing this information among projects.

Before implementing its PI&E program, each project was required to submit a detailed "Communications Plan" to NHTSA for approval. This plan described the target behavior of specific audiences to be influenced; the kinds of appeals that would be used to motivate these target audiences; the media to be employed; and the way in which the communications effort would be evaluated. NHTSA provided guidelines for the operation of individual project PI&E countermeasures and sponsored a variety of workshops, national meetings, and on-site consultations on campaign design, operation, and evaluation.

Results

NHTSA strongly encouraged the projects to evaluate their PI&E campaigns by means of baseline research and a series of surveys. This proved difficult, but some projects were able to document a *clear* relationship between public exposure to campiagn activities and changes in knowledge and attitude. Projects conducting evaluations were able to produce valid indications of program effectiveness sufficient to bear out general opinions resulting from experience.

Most projects conducted a large number of PI&E events. Several projects nearly reached the saturation point, and by the last two years of operation, a constant 75 percent of the public reported exposure to some kind of public service advertisement on drinking driving. Both national level and local level campaigns showed higher exposure rates where a local, full-time Public Information specialist was at work. In final telephone surveys, people who had been exposed to PI&E campaigns gave overwhelmingly better responses than those that had not. And finally, projects whose populations reported more exposure to advertising also reported greater changes in knowledge, attitudes, and behavior than projects whose populations did not receive the same degree of exposure. It must be concluded that the PI&E campaigns had very desirable effects, although they certainly did not all achieve all the objectives previously listed.

The degree of variety and experimentation displayed by the projects was singularly high: different media, different activities, and, most important, different themes. One lasting dividend has been the experience gained by the highway safety profession. NHTSA has accumulated a fund of materials and experience that is invaluable to any community or State, especially those interested in setting up a campaign and measuring its results.

The overall conclusion is that PI&E campaigns should definitely be a significant component of any local project. While better information campaigns are still needed, the greatest need now seems to be for better education of subgroups of drinking drivers or potential drinking drivers, and of those responsible for the community's response to drinking drivers. Especially effective are the kinds of mixed information and planning sessions which were conducted for community leaders: police, judges, attorneys, presentence/probation staff, and health care professionals. Outside help may be desirable in this area. NHTSA has created materials and seminar packages which are still available to communities and States.

Findings and Recommendations

The following questions are those most often asked by persons operating an alcohol safety campaign. The answers are taken from program experience and the results of individual projects.

I. Purpose of a PI&E Compaign

Q. What will a PI&E campaign do for the project as a whole?

A. First, it will help the community openly acknowledge the nature and extent of its drinking-driving problem. It will bring the issue out in the open and make the public sensitive to its importance. It will also ensure participation of essential public agencies and professionals. All the evidence from projects suggests that these activities will result in public support of escalated efforts to deter drinking driving as opposed to public perception of these efforts as repressive or unnecessary.

Second, it tends to increase the public's knowledge about alcohol, its effects on driving performance, and its effects on individual lives. Though evaluations of the PI&E campaigns showed that there were still gaps in public knowledge, all evaluations showed substantial increases in this area. Attitudes also tend to change. The most significant measure of this change came from the telephone surveys conducted at ten sites, showing the development of a strong public sense of personal responsibility for DWI prevention. Increased knowledge and changed attitudes are especially important to the creditability of national and local efforts to control drinking driving.

Third, although a PI&E campaign by itself will not be successful in changing behavior, it can reinforce the

positive effects of other countermeasures. Decisions to change behavior are highly complex and unlikely to occur quickly in response to a "bit" of new data or exposure to an advertisement, although some alteration does occur. However, exposure to a PI&E campaign together with knowledge of other countermeasures can have a powerful effect on drinking driving behavior. In fact, without PI&E, other countermeasures are probably less effective in changing behavior.

Q. What specific results can we expect from the PI&E campaigns aimed at the general public?

A. Telephone surveys conducted before and after campaigns detected significant results directly attributable to the campaigns. These results were that:

a. Positive changes occurred in public attitudes, knowledge, and self-reported behaivor. Changes were greater in projects with PI&E campaigns than in those without them.

b. There were greater changes in public knowledge than in public attitudes, and much greater changes than in bahavior.

c. Campaigns addressing a specific issue produced more change than the "broad brush" campaigns.

d. Public knowledge about alcohol and its effects increased significantly, and it increased most dramatically among those who saw or heard project advertising.

e. People who saw or heard advertising were more likely to recognize situations in which a person was too intoxicated to drive than were persons not exposed to advertising.

f. The sense of personal responsibility for preventing drinking-driving incidents was significantly higher among those who saw or heard advertising.

g. Advertising exposure stimulated significantly more discussion of the drinking driving problem. Ad exposure also increased the number of reported interventions in drinking driving situations.

II. Planning the PI&E Campaign

Q. How much money should be spent on PI&E?

A. Each project allocated an average of 8.5 percent of their total funds to PI&E. Supplemental funds went to support education or prosecutors, judges, presentence/probation personnel, and community managers. Approximately 5 percent to 10 percent of a project's budget should go to PI&E.

Money is better spent on personnel than on developing new materials. Large projects will find it worthwhile to hire a PI&E specialist with expertise in the areas of community organization, public relations, and advertising to ensure that existing materials are actively used. Personnel for specialized technical tasks should be hired from the community, local colleges, and outside consultants.

Money can be saved by coordinating local efforts with existing nationwide campaigns from NHTSA and NIAAA. Campaigns should not rely exclusively on radio, television, and newspapers, but should extensively use less expensive and efficient approaches, such as direct mail, school groups, civic clubs, large employers, etc.

Most projects helped their Public Information Officer by contracting with an advertising agency for production of materials and by using project staff to undertake evaluation tasks.

Q. What skills are necessary for planning, implementing, and measuring a PI&E campaigns?

A. The usefulness of PI&E depends upon the degree to which public communications can be made to support the achievement of overall project goals. This means that sufficient management and staff time must be devoted to developing PI&E objectives that are on target. Thus, the desirability of an "in-house," full-time manager of the public information and education program is clear.

Skills for planning and evaluation are essential if the program is to be measured in any quantitative way. Experts in experimental design can be obtained from local universities or consulting firms. Market research firms or the marketing departments of colleges can provide professional assistance in design phases. Much of the routine data collection and analysis can be performed "in-house."

The fundamental background necessary for the full time manager is in the community education and organization fields, rather than in any particular medium or in technical materials production. Perhaps the optimum education for this work is a combination of journalism/mass communications, public health education and social psychology.

Since most organizations cannot afford more than one full-time individual for public information, this person must have outstanding interpersonal skills and communication abilities, not to mention a boundless supply of energy.

Q. Is basic research before a PI&E campaign necessary?

A. Yes. Though some activities are inevitable, such as speeches to civic groups or introduction of K-12 curricula in the schools, the most effective actions can be selected only on the basis of knowledge of the target groups.

The complexity of any behavioral change requires careful message design. Many PI&E campaigns in the area of drinking driving have proved ineffective or even counterproductive, and it would be unwise to proceed with a substantial campaign without research. By using pre-campaign surveys, focus groups, clinical interviews, message testing and other research techniques, public information personnel better understand how the right behavioral decisions are made and which decisions may be susceptible to PI&E influence.

On the basis of this research, PI&E specialists should design their campaigns and allocate resources to research key target groups in a logical, prioritized order according to their importance to program effectiveness. They should also establish specific education objectives (knowledge, attitude, and behavior) indicating desired changes for each group, and they should aim their subject matter to meet those specific objectives.

Q. Are various types of surveys—roadside, household, and telephone—useful and necessary?

A. Useful, yes. They are also necessary in any major project in order to measure results. Most projects found that surveys are feasible despite difficulties with cost and operations, and that they were necessary both for evaluation of project effectiveness and for fine-tuning countermeasures.

All surveys used by the projects included a core of questions provided by NHTSA measure changes in public knowledge, attitudes and drinking driving behavior over time. Three types of surveys were used. Roadside surveys included measurement of driver BAC on a voluntary basis (without danger of arrest) in order to gauge the real level of drinking driving in a community. Household surveys concentrated on attitudes and knowledge but included self-reported drinking driving behavior. Ten projects for two years conducted a series of special, standardized telephone surveys to assess the impact of their PI&E campaigns.

Roadside surveys were not conducted at all sites, often because of legal problems. They emerged as the only satisfactory way to measure changes in the amount of drinking driving taking place. No alternative method of measuring DWI behavior proved as satisfactory. Household and telephone surveys revealed more about public knowledge and attitudes than any other method and were particularly useful in making PI&E efforts better tailored to needs. The projects contributed much to our knowledge of how to conduct all three types of surveys.

Careful planning and evaluation is necessary to a good PI&E campaign, particularly since experience to date has not yielded definitive strategies and messages guaranteed to be effective with important audiences. Therefore, communities must continue to experiment. Surveys alone provide much of the information basic to planning and evaluation. The use of surveys for both the design and the evaluation of PI&E campaigns is, therefore, strongly recommended.

Data obtained from surveys and other evaluation sources should be used to identify specific target groups and clarify their educational needs. In order to measure PI&E impact, surveys should also include questions assessing the extent of advertising exposure. Roadside surveys that include measurement of BAC should be used to correlate knowledge and attitudes with the actual drinking driving behavior of citizens. Technical assistance in all these areas can be provided by NHTSA.

Q. If we have to choose, should we invest in campaign aimed at the general public or in those aimed at special target groups?

A. Special target groups. No direct comparisons were made as to the overall effects of the two types of campaign, but project opinion and sample evaluations showed that benefits were clearer in the case of special target groups. However, campaigns aimed at special target groups require careful planning and analysis.

The most productive long term benefits stem from education and planning sessions for police, prosecutors, judges, presentence/probation staff, and health care professionals. These are the people concerned with drinking driving cases as part of their daily responsibilities and who actually determine the nature of a community's operations. Special seminar packages were developed under contract to NHTSA and are still available. More than half the projects gave credit to these seminars for an important share of the project's achievements. They are aimed not only at educating personnel, but also at having them cooperate to design and run a better local system.

Benefits were also measurable when a special target group among drinking drivers, e.g., young male beer drinkers, was identified and subjected to a tailored message and campaign. Identification of subgroups in the population likely to drink to excess and drive seems an

essential step for future PI&E efforts. This enables the tailoring of campaigns to the unique dynamics of the subgroup. When these subgroups are selected because research has identified them as high risk groups, then special target group campaigns seem likely to be more cost-effective than general public campaigns. However, we can again expect to see greater changes in knowledge and attitude than in driving or drinking behavior.

III. Operating the PI&E Campaign

Q. Should each community develop its own PI&E materials?

A. Only to a limited extent. Films and advertising spots for television are expensive, and it is difficult to get public service time on television. A variety of films and spots were developed at the national level and by the projects. Good principles of resource allocation suggest that using these is better than developing your own. Local money would be better spent hiring an Information Specialist to ensure that the materials are used by the media and by existing community education programs.

Other, less expensive materials need to be developed locally or adapted for local use. It is strongly recommended that new materials not be developed in isolation. The various projects developed and tested a wide variety of materials, types of materials, and theoretical approaches to the subject. Some promising materials and approaches proved ineffective or counterproductive. To avoid costly mistakes, it would be wise to examine tested, validated materials produced by other sites before producing local campaigns.

Q. Where can we obtain samples or copies of ASAP developed materials?

A.

a. The Highway Safety Research Institute, University of Michigan, publishes a catalog and maintains a library of such materials, which can be obtained on loan.

   Address: Ann Arbor, Michigan 48105

b. The National Highway Traffic Safety Administration can provide limited assistance and advice, either through Headquarters in Washington or through Regional Offices.

Q. What is the right media mix for a local PI&E campaign?

The Program did not research this question, but some guidelines emerged from experience. The media used should be those preferred by the target audiences as well as by considerations of cost and availability.

It proved very difficult to get adequate public service time in the mass media. One-shot efforts offering a programming novelty, e.g., a film showing the arrest process, or the effects of alcohol on sample drivers, could win air time after much negotiation. News announcements were well-publicized. But "propaganda" approaches have to compete with all the other good causes. On the other hand, surveys showed that TV reached a higher proportion of the public than any other medium. Television exposure can be increased by exploiting news opportunities, by interesting States in filming documentaries about alcohol countermeasures, and by having project specialists appear on talk shows.

The evaluations of project efforts showed that a very high proportion of the citizenry had been exposed to some ASAP message. By the last two years of project operation, reported exposure to some type of advertising had reached a stable 75 percent of the general public. Exposure to National level advertisements in the mass media was significantly higher at project sites where Public Information Officers had promoted their use, than in the rest of the country. Many citizens reported having received their exposure from some other form of promotion, e.g., civic clubs, posters, exhibits, instead of, or as well as, the mass media advertising.

The conclusion may be that it is the presence or absence of a Public Information Specialist which determines exposure rates. Selecting the right media to reach target audiences is part of his or her planning responsibility.

Q. What theme should a PI&E campaign use to approach drinking drivers? Should it urge them *not* to drink and drive?

A. Surveys show that some 80 percent of adult Americans drink, that most drive after drinking, at least occassionally, and that a quarter of them report driving after drinking too much on at least one occasion. In view of this, exhortations not to drink and drive are unlikely to be heeded, and they consume resources better used for more effective mesages.

No single slogan or theme emerged from ASAP experimentation that would cause drivers to reduce their drinking. A more reasonable and acceptable strategy is to inform people that it is the *excessive* use of alcohol that causes trouble and that it is socially acceptable to give and receive help to prevent drunk driving. At the same time, it should be noted that the San Antonio project conducted a thorough, well-evaluated "fear of arrest" campaign for six months that deterred an estimated 100,000 incidents of drinking driving during the six-month period—respondents reported continuing to drink, but decided not

to drive. It is thought that the desire to avoid being handcuffed and jailed (as shown in the campaign) was the precipitating factor.

Messages also need to be tailored for special subgroups among those likely to drink and drive. The same message will not be appropriate for all groups.

Q. What special target groups should be approached?

A.

a. Those which most often participate in situations where drinking and driving frequently occur. This will require careful analysis of all possible segments of the population, and it will produce different results in different communities. Once a target group has been identified, it can be further segmented according to age, drinking patterns, etc. Objectives for specific behavioral modifications must then be identified to avoid drinking driving. In addition, current campaigns encourage "friends" to prevent members of these target groups from drunk driving.

b. Community decision-makers. Those who will determine whether various project countermeasures will be undertaken are essential targets. They include public officials (especially those in the legal and health care systems) and professional groups. Education for these groups must be very purposeful and requires unusual expertise, but it has high dividends.

c. Those who can further disseminate the message. Since highway safety and drinking driving are a major public concern, they interest many influential people—clergymen, elected officials, civic groups, large employers, etc. Activities aimed at these people usually seek to provide them with ideas for reaching still more members of the public.

d. Those who distribute, sell, or promote alcoholic beverages. Trade associations, as well as individual liquor stores and bars, will often cooperate with public interest campaigns in this area.

Note that the order in which these groups are approached should be determined by (a) the needs of the projects countermeasures; and (b) the degree to which one group's participation can be built on that of another.

Q. What should be the balance between target group education and general public information?

A. The issue is not an "either/or" problem. Both are important for assuring that critical groups with special interests and needs are involved, plus assuring that there is a conducive climate in the community in which to carry out countermeasures. General education of the public is a worthy goal over the long run: however, immediate specific information is needed by specialized groups who can help combat today's drunk driving problem by actively assisting countermeasures. The proper balance depends upon the needs of the individual community.

Ultimately, one of the best hopes for controlling drunk driving is through the development of voluntary social norms which make driving after too much drink just plain socially unacceptable. This kind of taboo—evidenced throughout the community, in homes, in schools, in restaurants and bars, on television, etc.—is perhaps the best long-range solution. The development of voluntary standards can be achieved over sufficient time if the attempt is carefully planned and the beliefs and attitudes of the public are monitored through periodic surveys.

V Management: Project Financing

Federal Funding

Project activities were supported through Federal funding, but the concept that the projects were fully Federally funded is erroneous. In most of the projects, the local governmental agencies, i.e., Mayor's office, county executives, countermeasure agencies, Governors' Representatives for Highway Safety, and to some extent civic associations, provided extensive manpower, space, equipment, or services.

It is also important to note that, as the project became more established, the outside support increased in almost direct proportion to the acceptance and impact of the program in the community. Local agencies in numerous instances assumed total support of countermeasure elements either through direct budget support or through client fee systems, where the convicted drinking driver paid the majority of the presentence investigation, rehabilitation and treatment costs.

ASAP Costs and Revenues

ASAP Costs and Revenues cannot be clearly delineated because all 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, emphasis was placed on operating with 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 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.

Federal funds provided under Section 403 of the Highway Safety Act (shown in Table 5-1) were closely audited and provided a broad picture of relative levels of expenditure for five major countermeasure areas—enforcement, judicial, rehabilitation, public information, and education, and driver licensing. In addition, 37 percent of total Federal funding was used in management and evaluation of the projects.

Approximately $27 million, or 31 percent of the total amount, were spent in enforcement. Funds were used to purchase vehicles, chemical testing devices, and other specialized equipment. However, the majority of the funds were used to train and pay officers assigned to special DWI patrol units. These patrols normally required 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 was 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 developing material that would appeal to local audiences and to telling the public about the serious problem of drinking and driving, and what the projects were trying to do to solve the problem

The amount spent for the special management (approximately $15 million) and for evaluation (approximately $17 million) 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 project activities due to Federal funding. These monies provided for development of three

TABLE 5-1

ALCOHOL SAFETY ACTION PROJECTS

Cost Breakdown

Countermeasure Area

Cost in $1,000

	PROJECTS							
	Manage-ment	Evalua-tion	Enforce-ment	Judicial	Re-habili-tation	Public Infor-mation and Education	Li-censing	TOTAL
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 represents 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.

or more years of baseline data, design and implementation of management information systems, report writing, and staff salaries for both a planning and final report phase of approximately six months each. Also, 27 of 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 is now possible, nor would it have been possible to persuade participating communities to take more scientific, systematic approach to their drinking driving problem.

Special Cost Study

Introduction

More significant than an accounting of overall Federal expenditure or the costing of the special management and evaluation activities associated with a Federal project is the determination of the expected revenue/expenditure picture for local communities that wish 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[1] to study the sources of funds used in the ASAPs, the costs of these programs, and the costs of implementing such programs without Federal aid.

Financial data were collected from a sample of 10 of the 35 ASAPs. 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. The primary focus was the economic impact on four government sectors:

- Federal Government

- State Government
- County Government
- City Government

Costs and revenues for each government sector, together with financial data for offenders and attorneys, are summarized for each site. This approach permits comparison of the government sector which bore the cost and/or which received the revenue. Net costs (or revenues) are shown for the three local sectors (State, county, and city) and for all sectors (NHTSA, State, county, city).

Overall conclusions on the extent to which an ASAP can be financially self-sufficient are developed. An analysis of economic impact for statewide projects, countywide projects, and city projects is presented.

Analysis of State ASAP's

There were two statewide Alcohol Safety Action Projects (New Hampshire and South Dakota) included in the analysis sample. Summaries of their revenues and costs are presented in Table 5-2.

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 and much more typical of ASAP operation, the South Dakota ASAP 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 costs exceeding revenues for one of the nonfederal sectors.

Under the locally funded concept, 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 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 and, 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, solution of this problem will require either full understanding of the ASAP systems concept or a mechanism to transfer funds from one to a mechanism to transfer funds from one to another governmental entity.

Analysis of County ASAP's

Four county wide Alcohol Safety Action Projects (Fairfax), Hennepin, Tampa and Phoenix) were included in the analysis sample. Summaries of their revenues and costs are presented in Table 5-3.

For the actual NHTSA-funded program, three of the four county ASAPs had net revenues to local governments during the 3.5 year period. The fourth ASAP (Phoenix) had net costs for the city, but did operate with a net revenue for the State. Interestingly, neither costs nor revenues are associatd with the county in the Phoenix couny wide ASAP.

Under the locally funded hypothesis, only one of the ASAPs (Hennepin) was financially self-sufficient. For the other three ASAPs, "break-even" operation could only be achieved by transferring a financial burden of $300,000 to $600,000 to the abusive drinker-driver. In terms of percentages, this is an increase of 18 percent to 20 percent in costs to the offender. However, as will be discussed later in the report, the typical cost for a DWI arrest is not high, at least not in terms of the cost of alcoholism.

A persistent problem shown in the data is uneven distribution of costs and revenues among local and State governments. In each of the four ASAPs, either the State, county, or city had to bear costs in excess of revenue.

Analysis of City ASAP's

There were four city ASAPS (Kansas City, New Orleans, Oklahoma City, and San Antonio) included in the analysis sample. Summaries of their revenues and costs are presented in Table 5-4.

During the actual NHTSA-funded 3.5 years of operation, these four city projects demonstrated clear similarities. Each project operated with a net revenue to combined State, county, and city governments. Their average cost to NHTSA was $2,219,000, but offsetting revenues, which were generated by projects to the local governments, reduced the overall cost to taxpayers to an average of $1,500,000.

Under the locally funded concept, three of the four projects would have been financially self-sufficient, two showing net revenues of over $250,000, and the third operating essentially at "break-even." It should be noted, however, that to achieve this situation the offender in each case had to be assessed heavier monetary losses than actually occurred (16 percent increase). The fourth ASAP (New Orleans), which had a net cost, could have been operated at "break-even" if the costs to the offenders had been increased by 21 percent.

TABLE 5-2

STATE ASAP REVENUES AND COST (1971-1974)

(Thousands of Dollars)

Sector	Actual NHTSA Funded			Hypothesized Locally Funded		
	Revenues	Costs	Net	Revenues	Costs	Net
New Hamsphire ASAP						
NHTSA		(1385)	(1385)			
Total Local	2366	(479)	1887	2366	(247)	2119
State	2366	(416)	1950	2366	(247)	2119
County	–	–	–	–	–	–
City	–	(63)	(63)	–	–	–
All Government	2366	(1864)	502			
Offenders			(3136)			(3136)
Attorneys			1135			1135
South Dakota ASAP						
NHTSA		(1832)	(1832)			
Total Local	1764	(747)	(1017)	1764	(2113)	(349)
State	110	(488)	(378)	110	(1452)	(1342)
County	806	(166)	640	806	(166)	640
City	848	(93)	755	848	(495)	353
All Government	1764	(2579)	(815)			
Offenders			(2504)			(2504)
Attorneys			1135			1135

The concepts of "revenue" and "costs to the offender" received little attention during the formative stages of the ASAP demonstrations. This lack of consideration can be attributed to three factors: (1) ASAP program administrators had little control over sources or amounts or revenues; (2) revenue generation was not directly related to expenditures, and (3) political problems were (and are) perceived in viewing enforcement/judicial functions as revenue-generating activities. However, if ASAP is going to be implemented on a wider scale by local governments, it will be just as important to plan the financial system as it will be to plan the operational system.

Conclusions

The most significant conclusion to be drawn from the analysis of costs and revenues is that it is possible to implement a locally funded ASAP which is self-supporting. 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 ASAPS would have had an average cost of $1.3 million.

- Substantial portions of the costs of the NHTSA-funded ASAPS 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 ASAP that would be financially self-sustaining.

- A financial problem, which was 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.

The basis for these conclusion is explored in greater depth in the next sections of this research report.

TABLE 5-3

COUNTY ASAP REVENUES AND COSTS (1971-1974)

(Thousands of Dollars)

Sector	Actual NHTSA Funded			Hypothesized Locally Funded		
	Revenues	Costs	Net	Revenues	Costs	Net
Fairfax ASAP						
NHTSA		(2643)	(2643)			
Total Local	720	(377)	343	–	(874)	(874)
State	–	(377)	(377)	–	(250)	(250)
County	648	–	648	–	(321)	(321)
City	72	–	72	–	(303)	(303)
All Government	720	(3020)	(2300)			
Offenders			(1773)			(2835)
Attorneys			327			327
Hennepin ASAP						
NHTSA		(2115)	(2115)			
Total Local	2589	(981)	1608	2589	(2519)	70
State	–	–	–	–	(54)	(54)
County	65	(313)	(248)	65	(1447)	(1382)
City	2524	(668)	1856)	2524	(1018)	1506
All Government	2589	(3096)	(507)			
Offenders			(7845)			(7845)
Attorneys			4987			4987
Tampa ASAP						
NHTSA		(2172)	(2172)			
Total Local	560	(230)	330	–	(635)	(635)
State	–	(216)	(216)	–	(120)	(120)
County	115	–	115	–	(126)	(126)
City	445	(14)	431	–	(389)	(389)
All Government	560	(2402)	(1842)			
Offenders			(3504)			(3707)
Attorneys			1311			1311
Phoenix ASAP						
NHTSA		(2219)	(2219)			
Total Local	901	(1049)	(148)	36	(383)	(347)
State	267	(173)	94	36	–	36
County	–	–	–	–	–	–
City	634	(876)	(242)	–	(383)	(383)
All Government	901	(3268)	(2367)			
Offenders			(2178)			(1664)
Attorneys			1277			815

TABLE 5-4

CITY ASAP REVENUES AND COSTS (1971-1974)

(Thousands of Dollars)

Sector	Actual NHTSA Funded			Hypothesized Locally Funded		
	Revenues	Costs	Net	Revenues	Costs	Net
Kansas City ASAP						
NHTSA		(2107)	(2107)			
Total Local	1152	(325)	827	251	–	251
State	–	–	–	–	–	–
County	–	–	–	–	–	–
City	1152	(325)	827	251	–	251
All Government	1152	(2432)	(1280)			
Offenders			(5357)			(5859)
Attorneys			4045			4045
New Orleans ASAP						
NHTSA		(2157)	(2157)			
Total Local	502	–	502	600	(900)	(300)
State	–	–	–	–	(300)	(300)
County	–	–	–	–	–	–
City	502	–	502	600	(600)	–
All Government	502	(2157)	(1655)			
Offenders			(1934)			(2050)
Attorneys			1384			1400
Oklahoma City ASAP						
NHTSA		(2512)	(2512)			
Total Local	512	(92)	420	–	(19)	(19)
State	–	(92)	(92)	–	–	–
County	–	–	–	–	–	–
City	512	–	512	–	(19)	(19)
All Government	512	(2604)	(2092)			
Offenders			(3382)			(4382)
Attorneys			2520			2490
San Antonio ASAP						
NHTSA		(2101)	(2101)			
Total Local	1230	(98)	1132	731	(437)	294
State	--	(8)	(8)	67	–	67
County	1230	–	1230	664	–	664
City	–	(90)	(90)	–	(437)	(437)
All Government	1230	(2199)	(969)			
Offenders			(4475)			(5116)
Attorneys			2577			2577

Approach and Analysis of ASAP Costs

Introduction

This portion of the report contains a detailed analysis of ASAP costs for each of the four major countermeasures:

- Program Administration
- Enforcement
- Adjudication
- Rehabilitation

Annual operating costs were developed by averaging expenditures for the last 2 years of the operations of the ASAPs included in the analysis. Elimination of the costs for the initial year of ASAP operation was necessary because expenditures during that period were a combination of start-up and operating expenses and were not representative of annual operating costs of a stable program. Start-up costs were developed separately by an analysis of expenditures during the planning period and for equipment procurements and training which typically extended into the initial year of operations for the projects.

For each of the four major countermeasures, two separate analyses were developed—the cost experience from the NHTSA-funded ASAPs, and, areas where cost reductions were feasible, (assuming that the ASAPs had been locally funded and did not have to meet the research and reporting requirements of a Federally funded demonstration project).

Program Administration

The overall cost of program administration was developed by combining the expenditures for project management, project evaluation, and public information and education. These three functions were solely the responsibility of the management staff and all contributed to program administration.

Experience from NHTSA-funded ASAP's

Average costs for performance of project administration are contained in Table 1-15. These costs include the funds provided by NHTSA and the local contribution, both direct and indirect. Overall, the typical project required approximately $250,000 annually for operating expenses and just under $100,000 initially to plan and organize the project.

Annual operating costs were almost equally divided between project management (42 percent) and project evaluation (40 percent). Public information and education accounted for the remaining expenditures (18 percent). Comparison of annual operating costs for program administration with DWI arrest-rates failed to develop any correlations, indicating that the costs of the coordinative and evaluative functions are independent of the operational countermeasures.

The major expenses for project start-up were salaries for tne management staff during the planning period and procurement of office equipment (46 percent), design of the research aspects of the project and collection of baseline data by the project evaluator (42 percent), and design of public information and education campaigns and materials (12 percent).

Areas for cost reductions

Reductions are feasible in all three of the functional areas of program administration.

- Cost Reductions in Project Management. The initial concept of a management staff for an ASAP included provisions for several countermeasure coordinators, legal or fiscal assistants, and extensive support personnel. As the projects matured, the countermeasures coordinators were shifted to their line organizations and support staffs were substantially curtailed. Most projects found it possible to manage their ASAPS with only a project director, one or two professional assistants, and modest clerical support.

TABLE 5-5

AVERAGE PROGRAM ADMINISTRATION COSTS

Type of ASAP	Annual Costs (thousands)	Start-Up Costs (thousands)
State	$217	$ 68
County	$281	$ 87
City	$244	$121

- Cost Reductions in Project Evaluation. Project evaluation was a Federal requirement for the demonstration projects, and its scope could be drastically reduced under local funding. Some sites could eliminate the costs for project evaluation, but most would find it advantageous to obtain assistance, either through temporary staff or a contract with a professional organization, for design and implementation of a management information system.

- Cost Reduction in Public Information and Education. Almost all ASAPs expended considerable amounts of time and money for internal development of mass media materials. Considering the rather limited success of public information and education campaigns and the extensive material now available from NHTSA, reductions are practical for both start-up and annual operating costs.

Based upon the recommendations from the ASAP sites, a program administration countermeasure can be effectively designed with average start-up costs of $40,000 and annual operating costs of $90,000. Local conditions will vary, depending upon the type of ASAP (State, county or city), and will vary from site to site. Start-up costs should range between $25,000 and $50,000, with annual operating costs varying between $60,000 and $120,000, depending almost exclusively on the size of the management staff.

Enforcement

The overall cost of enforcement was developed by combining the expenditures for enforcement administration, enforcement selective patrols, enforcement training, and special activities. No costs were attributed to the catalytic increase in regular patrol DWI arrests achieved by almost all sites. Offsetting revenues were generated by most sites through traffic citations issued by the selective enforcement patrols.

Experience from NHTSA-funded ASAP's

Average costs for performance of enforcement, together with offsetting revenues, are contained in Table 5-6. These costs include the funds provided by NHTSA and the local contribution, both direct and indirect. Overall, the typical project expended about $300,000 annually for operating expenses, required $15,000 to prepare for the strengthened selective enforcement effort, and generated $61,000 in fines annually through the issuance of traffic citations by the selective enforcement patrols.

The major expenditures for start-up costs were for the training of the selective enforcement force and the procurement of equipment (patrol cars, breathalyzers, and

TABLE 5-6

AVERAGE ENFORCEMENT COSTS

Type ASAP	Annual Costs (thousands)	Annual Revenues (thousands)	Start-Up Costs (thousands)
State	$312	$125	$49
County	$265	$ 35	$80
City	$320	$ 55	$77

vans) necessary to support selective enforcement patrolling. Of these elements, the major factor was the number of additional patrol cars required to meet the selective enforcement strategy at each ASAP site.

Annual operating expenses were heavily committed to salaries for the selective enforcement patrols (82 percent). Much smaller amounts were required to support enforcement administration (9 percent), special activities (7 percent), and retraining (2 percent).

There was wide variation both in the number of traffic citations issued and in offsetting revenues generated by these citations. The maximum was 12,810 citations annually, with a minimum of zero. Revenues varied from zero to $238,000 annually. Another factor showing wide variation was the degree to which there was a catalytic increase in regular patrol DWI arrests over historical patterns. This varied from a negative 364 to a positive 4,609.

Areas for Cost Reductions

Reductions are feasible in three of the four functional areas of enforcement and in start-up costs.

- Cost Reductions in Enforcement Administration. The research and reporting requirements of a Federally-funded ASAP dictated administrative staffs much larger than would be required for a locally-funded project. Most sites concluded that enforcement could be effectively administered by a single police sergeant at a cost approximately $15,000 annually.

- Cost Reductions in Enforcement Training. Only 3 of the 10 sites had folllow-up training for their selective enforcement patrol force. the other seven used roll-call training and found it to be an acceptable system, and one without cost.

- Cost Reductions in Enforcement Special Activities. The research requirements of the Fedrally-funded project required frequent voluntary roadside surveys, which typically were supported by the police department. In addition, a number of sites had special units for surveillance of suspended and revoked licenses. None of these units was considered effective enough to warrant their retention under a locally funded concept. It was generally concluded that special activities would be funded adequately by approximately $10,000 annually.

- Cost Reductions in Enforcement Patrols. Provision of the same level of DWI arrest productivity would require the same expenditure of funds whether Federally or locally funded. The costs during the period of NHTSA funding averaged $242,000, which was approximately $9 per patrol man-hour. All sites concluded that major reductions in the costs of enforcement patrols could be made by increasing the level of motivation of their selective patrol officers, by being more selective in areas and times of enforcement, and by shifting the burden of DWI arrests increasingly to the regular patrols. These three factors are discussed more fully in subsequent paragraphs.

- *Cost Reductions in Start-Up.* The major expenditures for start-up were initial officer training and equipment procurement. All sites concluded that their training programs were necessary, but that economies could have been realized by more careful screening of their equipment procurements. Vans and videotape units were recommended for very careful consideration. With this action, it was generally concluded that start-up costs could have been held to $20,000, which was 28 percent of the annual operating costs for enforcement patrols.

  Based upon the recommendations of the 10 ASAP sites, an enforcement countermeasure can be effectively designed by: (1) selecting a desired level of selective enforcement activity in patrol man-hours and costing that activity in annual operating expenses for patrol salaries; (2) adding 10 percent annually for administration and special activities; and (3) providing 28 percent of annual expenses for patrol salaries as a budget for start-up costs. The output from this funding will vary depending upon the rural/urban nature of the ASAP site, the level of motivation of the officers assigned to selective enforcement, the selectivity in area and day of the week emphasis and the degree of catalytic impact upon regular police patrol units.

- Rural/Urban Nature of Site. Enforcement experience from the 10 ASAP sites during their Federally funded operation indicates that there is a definite correlation between the type of project and the patrol man-hours required for a DWI arrest. While there was some variation among sites, the patrol man-hours per DWI arrest shown in Table 5-7 appear to be valid factors for planning purposes.

- *Level of Officer Motivation.* Research by NHTSA and reports from individual ASAP sites indicate that the degree of officer motivation is one, if not the major, factor in DWI arrest productivity. While there has been little or no quantification of this influence, it is believed that motivation accounts for as much as plus or minus 20 percent in DWI arrest productivity. The effect of the different levels of motivation on DWI arrest productivity is shown in Table 5-8. It should be noted that only one case (City Project and High Degree of Motivation) meets NHTSA's initial planning factor of one DWI arrest for every eight patrol man-hours. This level of productivity was bettered by only 1 of the 10 ASAPs included in the sample for this research.

TABLE 5-7

AVERAGE PATROL MAN-HOURS PER DWI ARREST VERSUS TYPE OF PROJECT

Type Project	Nature	PMH/DWI
State	Rural only	37
County	Rural	13
	Urban	
City	Urban only	9.5

TABLE 5-8

PATROL MAN-HOURS PER DWI ARREST VERSUS MOTIVATION AND TYPE OF PROJECT

Type Project	Degree of Motivation		
	High	Average	Low
State	29.5	37.0	44.5
County	10.5	13.0	15.5
City	7.5	9.5	11.5

- Areas and Day of Week Emphasis. The majority of ASAP sites deployed their selective enforcement patrols on all nights of the week and on an area wide basis. If an ASAP had chosen to confine its selective enforcement patrols to areas of high alcohol risk and to limit patrols to Friday and Saturday nights, there would have been approximately a 12 percent reduction in the patrol man-hours required for a DWI arrest. The impact of this policy decision is shown in Table 5-9.

- Catalytic Impact on Regular Forces. The vast majority of, if not all, police departments make fewer arrests for drinking driving than they could with their regular police patrols. ASAP, through the use of overtime officers on selective enforcement and general indoctrination on the seriousness of the drinking driving problem, had at most sites a positive catalytic effect on historical DWI arrest patterns. For the 10 ASAP sites included in this research, there was an annual increase in regular patrol DWI arrests of 15,321; selective enforcement resulted in 21,103 DWI arrests annually. This catalytic effect (72 percent) is so large that it should be taken into account when planning the enforcement strategy for a locally funded ASAP. The effective DWIs arrested because of ASAP (Selective Enforcement equals 100) under various levels of catalytic impact are shown in Table 1-10; all of these levels were achieved by 1 or more of the 10 ASAP sites included in this research.

In addition to these planning factors, consideration should be given to the effect of issuing traffic citations for the "probable cause" stop of potential DWIs. There was a wide variation of strategies employed by the 10 ASAP sites included in this research, ranging from over 9 traffic citations per DWI arrest to none. The typical citation generated either $10 or $20 in revenue.

Adjudication

The overall cost of adjudication was developed by combining the expenditures for judges, prosecutors, public defenders, probation officers, presentence investigation and special costs (training, expert witness, and jury fees).

Experience from NHTSA-Funded ASAP's

Average costs for performance of adjudication, together with offsetting revenues, are contained in Table 5-11. These costs include the funds provided by NHTSA and the local contribution, both direct and indirect. Overall, the typical project expended about $229,000 annually for operating expenses, required $23,000 to plan for the deluge of DWIs, and generated $464,000 annually in fines, fees, and court costs.

The major expenditures for start-up costs were for the training of additional prosecutors and probation officers, and for presentence investigation personnel. Annual operating expenses went almost entirely for salaries of additional personnel needed to process the enormous increases in DWIs being referred to the courts, and for the new presentence investigation function.

The revenues generated by ASAPs through court costs and fines, probation fees, and miscellaneous charges for blood tests were extensive, and offset the annual operating expenses by a factor of more than two to one. However, the penalty per disposition was not inordinate. In fact, the average cost to the DWI was just slightly less than $100.

Areas for Cost Reductions

The feasibility of dramatic cost reductions in adjudication is very limited. The influx of substantial increases in DWIs requires at least additional support personnel for the prosecutor and the courts. The function of presentence investigation, being totally new to the misdemeanor courts, requires substantial funding, as does the probation office.

Five of the ten sites recommended no change under a locally funded concept. The other five indicated that only modest reductions could be made, unless there were significant changes made in the depth of presentence investigation or probation counselling.

Based on these recommendations, it appears that there are three levels for an adjudication program. All three include provisions for modest increases in support staffs for prosecution and the courts.

- Comprehensive Presentence Investigation (PSI) and Extensive Probation Counselling. This alternative requires approximately $90 per disposition (court support—$15, PSI—$15, and probation—$60).

- Simplified PSI (either the self-administered portion of Mortimer-Filkins or an equivalent) and Limited Pro-

TABLE 5-9

PATROL MAN-HOURS PER DWI VERSUS SELECTIVITY OF PATROL STRATEGY, DEGREE OF MOTIVATION, AND TYPE OF PROJECT

Type Project	Degree of Motivation					
	High		Average		Low	
	Selective	Non-Selective	Selective	Non-Selective	Selective	Non-Selective
State	26.0	29.5	32.6	37.0	39.2	44.5
County	9.2	10.5	11.4	13.0	13.6	15.5
City	6.6	7.5	8.4	9.5	10.1	11.5

TABLE 5-10

CATALYTIC IMPACT OF ASAP

Increase RP/ASAP DWI (%)	Effective DWI	Cost per DWI (dollars)
-10	90	127.25
Zero	100	114.53
+25	125	91.62
+50	150	76.35
+100	200	57.26
+200	300	38.17
+400	500	22.90
+600	700	16.36

TABLE 5-11

AVERAGE ADJUDICATION COSTS

Type of ASAP	Annual Costs (thousands)	Annual Revenues (thousands)	Start-Up Costs* (thousands)
State	$121	$710	$ 1
County	$315	$408	$11
City	$197	$398	$10

*One site excluded; $147,000 spent for new courtrooms.

bation Counselling. This alternative requires approximately $65 per disposition (court support—$15, PSI—$10, and probation—$40).

- Limited PSI (BAC and Prior Record Check) and No Probation Counselling. This alternative requires approximately $60 per disposition (court support—$15, PSI—$5, and probation—$40).

The revenue element of adjudication also requires careful consideration. The typical DWI pays just under $100 in fines and fees. However, the law in almost every State permits fines of $200 to $500 for first offenses and substantially greater amounts for repeat offenders. Even very modest increases in the levels of fines and fees would permit a locally funded ASAP to be financially self-sufficient. In many areas, the revenue would not go to the governmental entity which bears the brunt of the costs of enforcement and administration, but on a systems basis the ASAP could be operated at breakeven.

Rehabilitation

The overall cost of rehabilitation was developed by combining the expenditures for the NHTSA-sponsored alcohol safety schools and all other rehabilitation modalities used by the 10 ASAPs. Good cost data were available for the alcohol safety schools and that portion of the cost analysis can be considered accurate. The cost data for all other rehabilitation modalities were meager and that portion of the cost analysis should be viewed as a rough estimate.

Experience from NHTSA-Funded ASAP's

Annual client flows and average costs per patient for the major rehabilitation modalities are shown in Table 5-12. The costs include funds provided by NHTSA, direct local contributions, and tuition and/or fees paid by the patients. Start-up costs for rehabilitation, which are not included in the tabular data, averaged $11,000 per site. The major expenditures for start-up costs were for the design of the curriculum for the alcohol safety schools.

Funding for the alcohol safety schools was provided by all three sources: NHTSA, local contributions, and patient tuition payments. Overall, NHTSA provided 30 percent, and the local contribution was 10 percent. Five of the ten ASAPs, which accounted for over 80 percent of the total client flow, required tuition payments of between $15 and $30, and these payments accounted for the remaining 60 percent of total annual costs.

Areas for Cost Reductions

There are two areas for cost reductions: start-up and patient tuition payments.

TABLE 5-12

REHABILITATION COSTS

Rehabilitation Modality	Clients Assigned (%)	Cost Per Patient (dollars)
Alcoholics Anonymous	6.8	Zero
Alcohol Safety School	69.8	25
Chemotherapy	2.2	62
NIAAA ATP	8.4	65
Group Therapy	7.6	90
Individual Therapy	2.2	203
In-Patient	3.0	410

- Considering the wealth of material on the design of curriculum on file at NHTSA, start-up costs should not exceed $5,000 for a new ASAP.

- Half of the sites considered in this analysis charged tuition payments. Most recommended that tuitions be increased to cover most, if not all, of the expenditures for rehabilitation. Based on NIAAA research which supports the thesis that a fee for service has therapeutic value, these sites recommended reasonable tuitions of $25 to $75. However, no patient would be denied treatment because of an inability to pay. Rather, tuitions in excess of actual costs for the alcohol safety school would cover those unable to pay and help defray expenses for the more expensive treatment modalities.

Summary

Local or State governments that plan to implement an ASAP must address the fundamental issue in all countermeasures of their overall program—to what extent should the program be designed so that the abusive drinker driver supports the DWI control system? The answer to that question will direct policy decisions in each of the ASAP countermeasures.

A framework for a systematic analysis of costs and revenues is presented in the subsequent section of this report.

Planning a Cost-Efficient ASAP

Introduction

A "Cost-Efficient ASAP" may be defined as a systems-oriented community action program for the impaired drinking driver where the revenue produced by the system closely approximates the cost to operate that system. The concept of an economically self-sufficient, systems-oriented program is appealing, but for a variety of reasons, virtually non-existent at any governmental level. Nonetheless, it is apparent that a community with both an impaired drinking driver problem and a shortage of financial resources may see a cost-effictive ASAP program as a potential solution.

Several years experience with ASAP programs has only reinforced the idea that each program is unique. It can be designed to operate in an effective and efficient manner only after identifying the extent of the local drinking driving problem, surveying local resources, and formulating specific local operating objectives. One could consider the aforementioned tasks (identification of the problem, survey of resources, and formulation of objectives) to comprise a predesign phase of the ASAP planning function. Once completed, it is then possible to utilize that knowledge, in combination with the recommendations contained in this document, to design a potentially cost-effective ASAP.

The Predesign Phase

Before goals and operating objectives are formulated, it is important to determine both the extent of the existing impaired drinking driver problem in the area to be affected and the status of the current DUI control structure.

Survey of the Impaired Drinking Driver Problem

There are two basic approaches that can be utilized to infer the extent and nature of the impaired drinking driver problem within a geographical area. The easiest but least accurate approach consists of an examination of historical accident data for evidence of alcohol involvement, especially in fatal accident cases. Alcohol involvement, if present, would be more likely to be detected and reported in the fatal accident case than in nonfatal injury or property damage traffic accidents. Even so, the accuracy of the data is dependent upon such diverse factors as accident closure (determination of alcohol involvement or lack thereof for all drivers and pedestrians involved), presence or absence of laws governing alcohol chem test on fatal accident victims, deaths occurring 6 hours or more after the crash (resulting in nonusable chem test information), departmental policy (police or public safety agency), detection skills, and reporting diligence of the investigating officer.

The usefulness of fatal accident information can be enhanced by an investigation of the data and circumstances surrounding each accident and making a determination in each case: alcohol involved, nonalcohol involved, or alcohol involvement unknown. It may be necessary to infer alcohol involvement without direct and conclusive evidence. For example, a single vehicle accident occurring in the early morning hours where the only

passenger is fatally injured and has a high BAC (Blood Alcohol Concentration) but the driver survives would probably be alcohol-involved. This may be true even though no indication of "driver has been drinking" is present in the accident report. If the "unknowns" are separated from the data where a positive or negative alcohol determination has been made, then the ratio of positive determinations to total determinations (positive plus negative) can be formed. When converted to a percentage, a generally reasonable estimate of alcohol involvement in fatal accidents is obtained.

Injury and property damage accidents attributed to impaired drinking drivers, as determined from accident reports, are generally significantly lower than their actual occurrence. It is not uncommon to find alcohol mentioned as a factor in only 2 percent to 5 percent of all nonfatal traffic accidents in a community. Research has indicated, however, that this figure is more likely in the 10 percent to 20 percent range.

A more accurate determination of the existing impaired drinking driver problem in the community can be had through the use of a random roadside survey. The roadside survey simply consists of "voluntary" interviews with drivers randomly selected from the highways and streets within the community. Interviews are taken and data recorded so that anonymity of the respondent is preserved. Respondents are asked to take a chemical test (breath) for blood alcohol concentration as well as to respond to questions designed to indicate their knowledge of and attitudes toward the drinking driver problem. Procedures for site selection, protocol, number of interviews required, etc. are contained in a NHTSA publication.[2] Not only will the roadside survey enable the community to determine the severity of its problem, but it will permit them to identify components of the population (age, sex, racial group, occupational group, etc.) where the problem is most severe. This information is important in planning effective public information and education programs.

Experience has shown that roadside surveys can be conducted safety, efficiently, and cause virtually no residual resentment among those interviewed. It is highly recommended that roadside surveys be conducted to provide baseline data for program planning purposes. Additional surveys can also be conducted periodically during the time that an ASAP is in operation to provide information on program effectiveness.

Status of Current DUI/DWI Control Structure

Prior to any systems design activity relative to ASAP implementation, the current status of operations in the enforcement, prosecution, and judicial components of the community, as they relate to the handling of DUI (Driving Under the Influence) cases, must be discovered. Policy and management prerogatives in the detection, apprehension, prosecution, and adjudication of DUI cases must be sorted out from the mandates of State and municipal law.

It is imperative that State law and local ordinances affecting ASAP operation be clarified in the predesign phase. Among the statutes of interest would be those laws which:

- Affect the DUI arrest itself (including per se, pre-arrest test, chem test refusal, etc.).
- Provide or permit assignments to rehabilitation countermeasures.
- Control the sale, possession, and transportation of alcoholic beverages (State, county, city).
- Address suspension/revocation procedures for persons convicted of DUI.

It is also important to consider "in process" legislation and the effects it may have on future ASAP operations. If relevant State legislation is under consideration, it would be wise to investigate the situation, obtain a copy of the bill, and urge the appropriate city "lobbyist" to support or oppose the bill, as the case may be.

Further, it is of the utmost importance that a "client flow diagram" of current operations be constructed. Basically, the client flow diagram represents the possible activities and decisions of the client as he is processed through the system, in conjunction with the activities and decisions made by the police, prosecution, and court staff. An example of a comprehensive client flow diagram is given in Figure 5-1. Individuals intimately familiar with the operation concerned, i.e., police management, municipal prosecutor, municipal judge, or court clerk, should be consulted, as appropriate, during construction of the client flow diagram. Note that the numbers of clients traversing a particular path can be estimated with a fair degree of accuracy by using the aforementioned consultants' statistics or "educated guesses." Constructing the client flow diagram actually serves several purposes. Among them is to provide insight into the following:

- The extent of cooperation among the police-prosecution-court staff.
- The kinds of formal and informal information exchanges that occur among the PPC staff.
- The extent and type of probation services utilized by the court.
- Penalties invoked by the court for first and subsequent DUI offenses (fine-paid or suspended, jail-served or suspended, court costs levied, etc.).

- Police policies regarding first and subsequent DUI offenses (charges filed, decline to file, etc.).

- Prosecution policies regarding first and subsequent DUI offenses (plea bargaining, charge-reduction, decline to file, etc.).

Rehabilitation treatment alternatives should be identified and categorized according to type, e.g., in-patient, group therapy, family therapy, individual therapy, or educational, and costs, availability, location, and capacity. Experience has shown that organizations such as Alcoholics Anonymous can be easily expanded. Since the probation office will probably be faced with the task of monitoring clients who are attending one or more rehabilitation treatment alternatives, the probation staff should be questioned in the predesign phase regarding the capacity to handle this task.

Current facilities, equipment, and level of training in police, prosecution, and court areas should be determined in the predesign phase. Some of the considerations include:

- Level of enforcement personnel training and competence in detection apprehension, courtroom behavior, chem test operation, etc.

- Availability and location of police facilities, such as booking stations and prisoner-holding facilities.

- Availability and condition of police equipment required for an ASAP activity, such as patrol vehicles, breathalyzers or other chem test units, e.g., chromatograph.

- Availability of "spare judicial capacity" to handle additional cases.

The success of any program that operates within a political system depends on the ability of the program manager to cope with the political constraints and pressures that the program may either generate or with which it must coexist. It is important that existing constraints and attitudes of various population segments be understood during the predesign phase. Some of the "population segments" whose views toward an ASAP program (i.e., is alcohol-impaired driving a relatively important problem? should it receive attention?) are important to its success include:

- The general public

- Legislators, city council members

- City manager, mayor, county executive, governor

- News media (management level)

The success or failure of an ASAP depends in large measure on the abilities of and status given to the project manager. He should have a management style of sufficient flexibility to cope with and control a project over most of which he will not usually have direct line supervisory responsibilities. For example, the ASAP project manager has no direct control over the police function, but DUI enforcement activities are of vital importance to his program. This problem can be neutralized somewhat by giving the ASAP manager sufficient job status. In a city-wide ASAP, for example, the ASAP director should have similar pay and status to the police chief and municipal counselor or, in general, a "department head" position. This further implies that the ASAP project must not be attached directly to or identified with any major countermeasure area, e.g., police department, courts, prosecution. The identification of the ASAP as a "part of" the police department or courts may result in undue emphasis on one countermeasure area, resulting in an unbalanced program, or promote petty jealousy and undue friction between agencies.

After the existing problems and current system components are clarified, it is possible to address realistically the problem of formulating goals and objectives. This is necessary (prior to the design phase) in order to design an efficient potentially effective, and balanced program.

Formulating Goals and Objectives

Goals may be considered as a reasonably logical eventual consequence of the achievement of relevant objectives. Goals may not be easily quantifiable or, if quantifiable, may not be easily or accurately measured. Most objectives, on the other hand, are both quantifiable and measurable. It is preferable, in the process of goal and objective formulation, to initially define several goals and then decide upon relevant objectives. Examples of reasonable goals include:

- Improvement in effectiveness and efficiency of the entire highway safety system within the community.

- Integration of criminal justice and health care delivery systems into the highway safety system.

- Increased awareness and recognition of the problems caused by the impaired drinking driver.

- Reduction in alcohol-related traffic accidents.

- Reduction in average BAC levels of the drinking public.

Of these goals, only the last two are quantifiable, and even then ASAP did not determine what levels of activity and effectiveness are required in the various countermeasures to achieve a statistically significant reduction in alcohol-related traffic accidents or BAC levels. Therefore,

objectives should be set and quantified on a best judgment basis, for example:

- **Enforcement**
  - Increase DUI arrests by x percent over present levels.
  - Provide training adequate for DUI detections and apprehensions that results in prosecutions in x percent of the arrests.
- **Adjudication**
  - Improve court and prosecution procedures to provide an average arrest to final disposition time of x days.
  - Implement a workable court referral PSI system for DUI cases to ensure that the degree of the drinking problem is categorized and rehabilitation recommendations made for x percent of court dispositions.
  - Improve court cooperation to provide for acceptance of PSI recommendations for rehabilitation in x percent of court dispositions.
- **Rehabilitation**
  - Provide educational programs adequate to treat x percent of the DUI cases categorized as social drinkers.
  - Provide education and/or rehabilitation programs adequate to treat x percent of the DUI cases categorized as mid-range or severe problem drinkers.

A simplified client flow diagram (Figure 5-1) can be constructed to reflect the goals and objectives of the individual ASAP program. Quantification of the objectives allows a determination of the magnitude of the proposed activities.

An additional consideration in ASAP system design is the matter of cost-effectiveness discussed earlier. The system can be designed so that projected revenues approximate estimated costs. This is a major policy decision which should be addressed in the predesign phase:

- To what extent should the program be designed so that the abusive drinking driver supports the DUI control system?

The Design Phase

If ASAP is to exist as an integrated goal-oriented system, certain elements are necessary, independent of size or type (city, county, State) of jurisdiction. These elements include program administration, enforcement, adjudication (prosecution, courts, presentence investigation, and probation), and rehabilitation. The questions to be addressed in each of these areas are discussed in the following sections. Those questions that are particularly cost-revenue-oriented are indicated by an asterisk.

Program Administration

Program administration has three basic areas of responsibility: project management, management information systems and evaluation, and public information and education. Costs depended almost exclusively on the size of the management staff planned for the project.

a. What size staff is planned for the project?

- Project director, PI&E specialist, and secretary (start-up costs: $25,000; annual costs: $60,000)
- Project director, assistant project director, countermeasure coordinator, PI&E specialist, and secretary (start-up costs: $40,000; annual costs: $90,000)
- Project director, assistant project director, management information specialist, countermeasure coordinator, PI&E specialist, secretary, and clerk typists/data reducers (start-up costs: $50,000; annual costs: $120,000)

Determine program administration costs by selection of applicable alternatives.

$$3.5 \text{ Year Cost} = 3 \text{ (Annual Costs)} + \text{(Start-Up Costs)} \quad \text{(Eq. 1-1)}$$

b. What governmental entity will bear the costs for program administration?

- City government
- County government
- State government

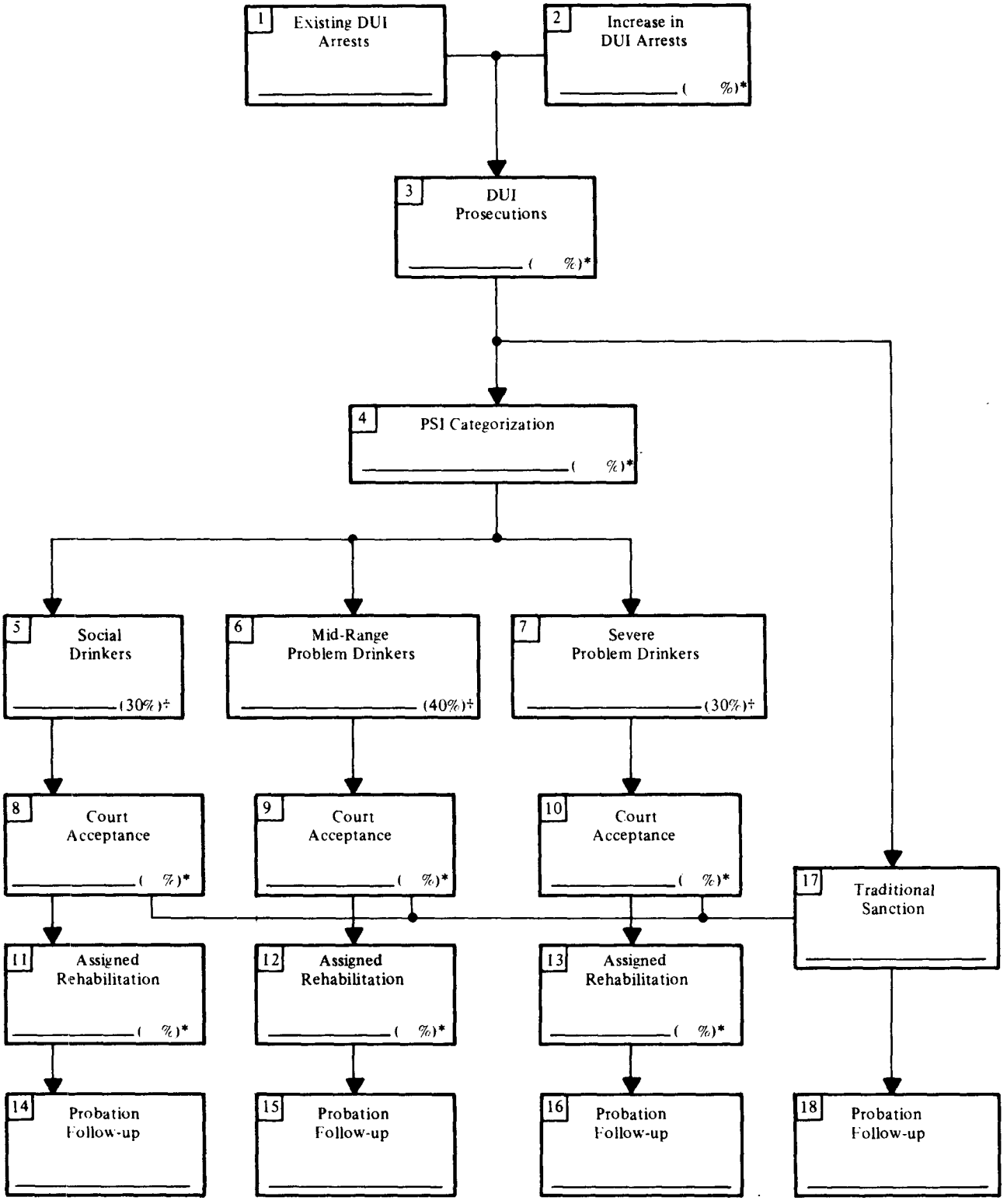
Enter your decisions in Table 5-13.

TABLE 5-13

Countermeasure Area	State Costs			County Costs			City Costs		
	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr
Program Administration Costs									

FIGURE 5-1

CLIENT FLOW DIAGRAM



*Determined by program objectives.

÷Based upon NHTSA estimates.

Enforcement

The following questions are pertinent to the analysis of costs and revenues from enforcement:

a. What is the existing level of DUI arrests within the geographic area of the project? (from Client Flow Diagram, block 1)

b. What is the objective for increasing DUI arrests? (from Client Flow Diagram, block 2)

c. What is the anticipated catalytic effect on DUI arrests for the regular forces (-10% to + 600%)

Determine number of required selective enforcement DUI arrests by application of the following algorithm:

(Historical DUI Level) × (Percent Increase Planned-Percent Catalytic Impact Anticipated)/100 = Selective Enforcement DUI Arrest Requirement (SEAR)

(Eq. 1-2)

d. What type of project is planned (city, county or State)?

e. What is the anticipated degree of motivation of the enforcement agency?

- Low
- Average
- High

f. What is the planned strategy for selective enforcement?

- Nonselective (all nights of the week, all areas)
- Selective (weekend nights, high risk areas)

Determine number of selective patrol man-hours needed to project the required arrest levels by application of the following algorithm, using the PMH factor from Table 5-9.

(SEAR) (PMH Factor) = Selective Enforcement PMH (SEPMH)

(Eq. 1-2)

Determine selective enforcement costs by application of the following algorithms:

Annual Costs = (SEPMH) ($9) (1.1)
Start-up Costs = (SEPMH) ($9) (0.28)
3.5 Year Costs = (3) (Annual Costs) + (Start-up Costs)

(Eq. 1-4)

g. What government entity will bear the costs for enforcement?

- City government
- County government
- State government

Enter your decisions in Table 5-14.

h. What is your planned policy for issuance of traffic citations for probable cause DUI detections?

- No citations .....• 5/1 DUI increase
- 1/1 DUI increase .....• 6/1 DUI increase
- 2/1 DUI increase .....• 7/1 DUI increase
- 3/1 DUI increase .....• 8/1 DUI Increase
- 4/1 DUI increase .....• 9/1 DUI increase

i. What will be the average revenue from each traffic citation?

- Warning
- $10
- $20

Determine enforcement revenue by application of the following algorithm:

(DUI Increase) × (Traffic Citation Policy) × (Average Fine) = Enforcement Revenue
3.5 Year Revenue = 3 (Enforcement Revenue)

(Eq. 1-5)

j. What governmental entity (ies) will receive the revenue from probable cause stops?

- City
- County
- State

Enter your decisions in Table 5-15.

ADJUDICATION

The following questions are pertinent to the analysis of costs and revenues from adjudication:

a. How many cases will be prosecuted in the court system? (from Client Flow Diagram, block 3)

Determine court support costs

(No. Cases Prosecuted) ($15) = Court Support Costs

(Eq. 1-6)

b. How many presentence investigations will be conducted? (from Client Flow Diagram, block 4).

c. How comprehensive will the presentence investigation be?

- Comprehensive PSI ($15)
- Simplified PSI, either the self-administered questionnaire of Mortimer-Filkins or an equivalent ($10)
- Limited PSI, BAC and prior record check ($5)

Determine PSI costs:

(No. Presentence Investigations) (Level of Comprehensive) = PSI Costs

(Eq. 1-7)

TABLE 5-14

Countermeasure Area	State Costs			County Costs			City Costs		
	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr
Program Administration Costs									
Enforcement Costs									
Subtotal									

TABLE 5-15

Countermeasure Area	State Costs			County Costs			City Costs		
	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr
Program Administration Costs									
Enforcement Costs									
Enforcement Revenues									
Subtotal									

d. How many probation followups will be conducted? (from Client Flow Diagram, blocks 14, 15, 16, and 18)

e. What level of comprehensiveness is planned for the probation followup?

- Extensive probation counseling ($60)
- Limited probation counseling ($40)
- No probation counseling, check-in only ($20)

Determine probation costs:

(No. of Probation Followups) (Level of Comprehensive) = Probation Costs (Eq. 1-8)

Determine adjudication costs by summing Eqs. 1-6, 1-7, and 1-8.

Court Support Costs + PSI Costs + Probation Costs = 3 (Adjudication Costs) (Eq. 1-9)
3.5 Year Cost = 3 (Adjudication Costs)

f. What governmental entity (ies) will bear the costs for adjudication?

- City
- County
- State

Enter your decision in Table 5-16.

g. What level of fine will be assessed?

- Social drinkers _____(h.1)
- Mid-range problem _____(g.2)
- Severe problem _____(g.3)
- Traditional sanction _____(g.4)

h. How many cases will be handled by the courts?

- Social drinkers (from Client Flow Diagram, block 8) _____(g.1)
- Mid-range problem (from Client Flow Diagram, block 9) _____(h.2)
- Severe problem (from Client Flow Diagram, block 10) _____(h.3)
- Traditional sanction (from Client Flow Diagram, block 17) _____(h.4)

Determine court fine revenue by summing the following algorithm:

- Social drinkers (g.1) × (h.1) = _____
- Mid-range problem (g.2 × (h.2) =_____
- Severe problem (g.3) × (h.3) =_____
- Traditional sanction (g.4) × (h.4) = _____

Total court fine revenues_____(Eq. 1-10)

i. Do you plan to charge a fee for the presentence investigation?

- No
- Yes
- How Much?

j. How many presentence investigations will be conducted? (from Client Flow Diagram, block 4)

Determine presentence investigation fee revenue:

(PSI Fee) (No. of Presentence Investigations) = PSI Fee Revenue (Eq. 1-11)

k. Do your plan to charge a probation supervisory fee?
- No
- Yes
- How much?

l. How many probation followups will be conducted? (from Summation of Client Flow Diagram, blocks 14, 15, 16 and 18)

Determine probation supervisory fee revenue:

(Probation Supervisory Fee) (No. of Probation Followups) = Probation Supervisory Fee Revenue (Eq. III-13)

m. What governmental entity will receive the revenue from courts fines, presentence investigations and probation supervisory fees?
- City
- County
- State

Determine adjudication revenue by the summation of Eqs. 1-10, 1-11 and 1-12.

Court Fine Revenue + Probation Supervisory Fee Revenue + PSI Fee Revenue = Adjudication Revenue (Eq. 1-13)

3.5 Year Revenue = 3 (Adjudication Revenue)

Enter your decision in Table 5-17.

Rehabilitation

The following questions are pertinent to the analysis of costs and revenues from rehabilitation:

a. How many social drinkers will be assigned to a rehabilitation program? (from Client Flow Diagram, block 11) How many are estimated as assigned to:
- Alcoholics Anonymous _____(a.1)
- Educational School _____(a.2)

b. How many mid-range problem drinkers will be assigned to a rehabilitation program? (from Client Flow Diagram, block 12) How many are estimated as assigned to:
- Alcoholics Anonymous _____(b.1)
- Educational School _____(b.2)
- Chemotherapy _____(b.3)
- NIAAA ATP _____(b.4)
- Group therapy _____(b.5)

c. How many severe problem drinkers will be assigned to a rehabilitation program? (from Client Flow Diagram, block 13) How many are estimated as assigned to:
- Alcoholics Anonymous _____(c.1)
- Education school _____(c.2)
- Chemotherapy _____(c.3)
- NIAAA ATP _____(c.4)
- Group therapy _____(c.5)
- Individual therapy _____(c.6)
- In-patient _____(c.7)

Determine rehabilitation costs by summation of the following algorithms:
- Educational school
  [(a.2) + (b.3) + (c.2)] x $25 _____
- Chemotherapy
  [(a.3) + (b.3)] x $62 _____
- NIAAA ATP
  [(b.4) + (c.4)] x $65 _____
- **Group therapy**
  [(b.5) + (c.5)] x $90 _____
- Individual therapy
  (c.6) × $203 _____
- In-patient
  (c.7) × $410 _____

Total rehabilitation costs
(Eq. 1-14) _____
3.5 Year Cost = (Total Rehabilitation Cost)

d. What governmental entity (ies) will bear the costs for rehabilitation?
- City
- County
- State

Enter your decision in Table 5-18.

e. What tuition do you plan to charge for the various rehabilitation modalities?
- Educational School _____(e.1)
- Chemotherapy _____(e.2)
- NIAAA ATP _____(e.3)
- Group therapy _____(e.4)
- Individual therapy _____(e.5)
- In-patient _____(e.5)
- Standard fee for all clients _____(e.7)

Determine rehabilitation revenues from the following algorithm:
- Education school
  (a.2) + (b.2) + (c.2) × (e.1) = _____
- Chemotherapy
  (b.3) + (c.3) **x (e.2)** = _____
- NIAAA ATP
  (b.4) + (c.4) × (e.3) = _____
- Group therapy
  (b.5) × (c.5) × (e.4) = _____

- Individual therapy
  (c.6) × (e.5) = _____
- In-patient
  (c.7) × (e.6) = _____
  or
- Standard Fee
  [(a.2) + (b.2) + (b.3) + (b.4) + (b.5) + (c.2) + (c.3) × (e.7) + (c.4) + (c.5) + (c.6) + (c.7)] (e.7) _____

3.5 Year Revenue = 3(Total Rehabilitation Revenue)

f. What governmental entity (ies) will receive the revenue from rehabilitation tuitions?

- City
- County
- State

Enter your decisions in Table 5-19.

TABLE 5-16

Countermeasure Area	State Costs			County Costs			City Costs		
	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr
Program Administration Costs									
Enforcement Costs									
Enforcement Revenues									
Adjudication Costs									
Subtotal									

TABLE 5-17

Countermeasure Area	State Costs			County Costs			City Costs		
	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr
Program Administration Costs									
Enforcement Costs									
Enforcement Revenues									
Adjudication Costs									
Adjudication Revenues									
Subtotal									

TABLE 5-18

Countermeasure Area	State Costs			County Costs			City Costs		
	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr
Program Administration Costs									
Enforcement Costs									
Enforcem ent Revenues									
Adjudication Costs									
Adjudication Revenues									
Rehabilitation Costs									
Subtotal									

TABLE 5-19

Countermeasure Area	State Costs			County Costs			City Costs		
	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr	Start-Up	Annual	3.5 Yr
Program Administration Costs									
Enforcement Costs									
Enforcement Revenues									
Adjudication Costs									
Adjudication Revenues									
Rehabilitation Costs									
Rehabilitation Revenues									
Grand Total									

Summary

The preceding procedure will result in a reasonably accurate planning estimate for your Alcohol Safety Action Project. The overall result should then be compared against the policy decision you addressed in the predesign phase: "To what extent should the program be designed so that the abusive drinker driver supports the DWI control system?"

If you had made the policy decision that the drinking driver should totally pay for the system, it is probable that your initial design will not result in the correct balance of costs and revenues. However, with the analytic framework developed, it will be easy to make minor modifications in your policies so that you do achieve the desired balance.

The final section of this report presents an example of costs and revenues from alternative policy decisions, and shows the magnitude of economic impact resulting from different decisions.

Use of ASAP Design Algorithms

Introduction

The purpose of this section is to illustrate the use of the ASAP planning algorithms presented in the preceding section and to show the effects policy decisions made during the early stages of planning have on the cost-effectiveness of a locally supported ASAP program. The impact of policy decisions will be developed through the application of the algorithms to a city of 500,000 population.

The Predesign Phase

Activities in the predesign stage include the determination of the numbers of impaired drinking drivers in the area, the determination of the status of current DUI control structures, and the establishment of appropriate program goals and objectives.

a. Survey of the Impaired Drinking Driver Problem

In order to determine the level of ASAP effort needed to reduce the impact of impaired drinking drivers on the motoring public, it is first necessary to evaluate the seriousness of the impaired drinking driver problem in the program area. Data on the extent and nature of the DUI problem can be obtained through examination and evaluation of historical accident data or through the conduct of voluntary roadside surveys. The drinking driver problem assumed in the simulation is indicated by the data presented in Table 5-20. The values presented were obtained by averaging the results of roadside surveys conducted in several of the cities evaluated during this study. Additional data pertinent to the establishment of an ASAP in the simulation is given in Table 5-21. This information is based upon averages obtained from the 10 ASAP's evaluated during the study, normalized to a population of 500,000.

b. Status of DUI/DWI Control Structure

Within each city, county, or State considering the implementation of an ASAP,a survey must be made to determine the current status of operations in the enforcement, prosecution, and judicial components of the community as they relate to the handling of DUI cases. Included in items to be considered are: State law and local ordinances; "in process" legislation; rehabilitation alternatives; current facilities, equipment and training levels in police, prosecution and court areas; and the political constraints and pressures that the program may generate or with which it must coexist. Among the outputs of this effort will be a "client flow" diagram providing an overall view of the interrelationships of these factors. The client flow diagram presented in Figure 5-1 was adopted for this simulation: specific policy or operational decisions based on results of the predesign DUI/DWI control structure survey affecting the ASAP system design are discussed as they apply to the design activities.

c. Formulating Goals and Objectives

The goals established for the planned ASAP are as follows:

- Improvement in efficiency and effectiveness of the entire highway system within the community.
- Integration of criminal justice and health care delivery systems into the highway safety system.
- Increased awareness and recognition of the problems caused by the impaired drinking driver.
- Reduction in alcohol-related traffic accidents.
- Reduction in average BAC levels of the drinking public.

As mentioned in the preceding section the goals of an ASAP represent reasonably logical eventual consequences of ASAP activities, but cannot be qualified or readily measured. In order to provide activities that will contribute to the realization of the established goals and to provide a means of measuring the effectiveness and appropriateness of ongoing ASAP activities, reasonable "best judgement" objectives must be set and quantified. Objectives for the ASAP designs in this simulation are established as follows:

Enforcement

- Increase DUI arrests by 300 percent
- Provide training adequate for DWI detection and apprehension that results in the prosecution of 95 percent of the arrests.

TABLE 5-20

ROADSIDE SURVEY RESULTS BAC LEVELS

Category	Number	Percentage
Participants	1088	100
Had been drinking (BAC≤0.05)	260	23.9
Impaired (BAC >0.05)	124	11.4
DWI (BAC >0.1)	46	4.2
"Bombed" (BAC >0.15)	18	1.7

TABLE 5-21

PERTINENT DATA-ANNUAL AVERAGES

Population	Fatal Accidents		Injury Accidents		Licensed Drivers	DUI Arrests
	Crashes	Fatalities	Crashes	Injuries		
500,000	*82*	*90*	*5,450*	*8,150*	*328,000*	*1,400*

Adjudication

- Implement a workable court referral PSI system for DUI cases to ensure that the degree of the drinking problem is categorized and rehabilitation recommendations made for x percent of court dispositions.
- Improve court cooperation to provide for acceptance of PSI recommendations regarding rehabilitation in 90 percent of court dispositions.

Rehabilitation

- Provide educational programs adequate to treat 100 percent of the DUI cases categorized as "social" drinkers.
- Provide educational/rehabilitation programs adequate to treat 100 percent of the DUI cases categorized as "mid-range" or "severe" problem drinkers.

Using the data assembled during the predesign phase and the values developed during the quantification of objectives, a simplified client flow diagram can be constructed to reflect the magnitude of the proposed activities. (See figure 5-1.)

Once the necessary information on the severity and handling of DUI offenders in the ASAP area has been gathered and appropriate goals and objectives established, an ASAP can be designed that will be responsive to the needs of the community. An additional major policy decision that must be cosidered during the design phase is:

- To what extent should the program be designed so that the abusive drinker driver supports the DUI Control System?

The Design Phase

The four major elements of any integrated, goal-oriented ASAP system are: program adminstration, enforcement, adjudication, and rehabilitation. Each of these elements will be discussed separately in the following subsections in order to illustrate the use of the algorithms developed in the preceding section each element will be evaluated for three cases:

- Case A reflects a policy of low cost-effectiveness; the community assumes the responsibility of supporting ASAP acitivities.
- Case B reflects a policy of average cost-effectiveness; the abusive drinker driver is expected to support the bulk of the ASAP program.
- Case C reflects a policy of high cost-effectiveness: the DUI offenders of the community not only support ASAP activities, but also provide additional funds to involve governmental agencies for other uses.

Changes in the level of enforcement, adjudication, and rehabilitation between the three cases are minimized to provide approximately the same level of services to the community.

Program Administration

Evaluation of the existing severity of the DUI problem and existing law enforcement, judicial, and rehabilitation services resulted in the determination that an ASAP administrative staff consisting of a project director, assis-

tant project director, countermeasure coordinator, PI&E specialist and secretary would best meet the needs of the community. It was also decided that the ASAP would come under the authority of and be funded by the city government. Program administration will be the same for Case A, Case B and Case C.

These decisions result in the following cost determination. The numbers in the left margin refer to the equations developed in the preceding section.

(Eq. I-1) Start-Up Cost $40,000
Annual $90,000
3.5 Year Costs = 3(90,000) + 40,000 = $310,000

Enforcement

Parameters held constant for all three cases under consideration included:

- Existing level of DUI arrests—1400/yr
- Objective for increasing DUI arrest—300 percent
- Type of project—City
- Governmental agency bearing enforcement costs—City
- Planned policy for issuance of traffic citations for probable cause DUI detections—4/1 DUI increase
- Governmental entity receiving revenue from probable stops—City

Case A: Enforcement decisions resulting in a community supported ASAP are:

- Anticipated catalytic effect—0 percent
- Anticipated degree of motivation of the enforcement agency—Low
- Planned strategy for selective enforcement—nonselective (all nights of week, all areas)
- Average revenue from each traffic citation—none, warning only

Based on these decisions, enforcement costs for Case A are as follows:

(Eq. I-2) SEAR=(1400)×(300-0)/100=4200
(Eq. I-3) SEPMH=(4200)×(11.5)=48,300
(Eq. I-4) Annual Costs=(48,300) (9) (0.1)
= 478,170
Start-up Costs=(48,300) ×(9)(0.28)
=121,716
3.5 Year Costs=3(478,170)+121,716
=1,556,226

Revenues for enforcement activities under the above assumptions are:

(Eq. I-5) Enforcement Revenues=(4200) (4) (0)=$0
3.5 Year Revenues=(3) (0)=$0

Case B: An average cost effective program might adopt the following parameters:

- Anticipated catalytic effect—100 percent
- Anticipated degree of motivation—Average
- Planned selective enforcement strategy—Selective (weekend nights, high-risk areas)
- Average revenue for traffic citations—$10

Costs under these assumptions are:

(Eq. I-2) SEAR=(1400) (300-100)/100=2800
(Eq. I-3) SEPHMH=(2800) (8.4)=23,520
(Eq. I-4) Annual Costs=(23,520) (9) (1.1)
=232,848
Start-up Costs=(23,520) (9) (0.28)
=59,270
3.5 Year Costs=(3) (232,848)+
59,270=757,814

Revenues received from an average traffic violation fine of $10 are:

(Eq. I-5) Enforcement Revenues=(2800) (4)(10)
=$112,000
3-5 Year Revenues=3 (112,000)=336,000

Case C: Net revenues can be realized from ASAP-related enforcement activities if the following parameters are established:

- Anticipated catalytic effect-200 percent
- Anticipated degree of motivation-High
- Planned enforcement strategy-Selective
- Average revenue from citations-$20

Enforcement costs are:

(Eq. I-2) SEAR=(1400) (300-200)/100=1400
(Eq. I-3) SEMPH=(1400) (6.6)=9240
(Eq. I-4) Annual Costs=(9240) (9) (1.1)
=91,476
Start-Up Costs=(9240) (9) (0.28)
=23,285
3.5 Year Costs=(3) (91,476)+
23,285=297,713

Revenues from enforcement activities:

(Eq. I-5) Enforcement Revenues=(1400) (4)(20)
=112,000
3.5 Year Revenues=3(112,000)=336,000

Adjudication

Policy decisions and operational estimates affecting adjudication held constant for all three Cases include:

- Number of cases prosecuted—5320
- Number of presentence investigations—4788
- Number of probation followups—5320
- Level of probation counseling—Limited ($40 per case)
- Revenue calculations based on an average fine for all classification of offenders
- Cost for adjudication the responsibilty of the county government
- Revenues from adjudication received by the county government.

Case A: Computations of costs and revenues for a community supported ASAP included the following assumptions:

- Level of presentence investigation—Comprehensive PSI ($15)

- Average court fine per DUI case—$50
- Presentence investigation fee—$0
- Probation followup fee—$0

COSTS:

(Eq. I-6) Court Support Costs = (5320)(15) = $79,800
(Eq. I-7) PSI Costs = (4788) (15) = $71,820
(Eq. I-8) Probation Costs = (5320) (40) = $212,800
(Eq. I-9) Adjudication Costs = $79,800 + 71,820 + 212,800 = 364,420

REVENUES:

(Eq. I-10) Court Fines Revenue = (5320) (50) = $266,000
(Eq. I-11) PSI Fee Revenue = (4788) (0) = $0
(Eq. I-12) Probation Supervisory Fee Revenue = (5320) (0) = $0
(Eq. I-13) Adjudication Revenue = 266,000 +0 + 0 = $266,000
3.5 Year Revenue = 3 (266,000) = $798,000

Case B: An average cost-effective ASAP could be realized by instituting the following decisions:

- Level of PSI—Simplified PSI ($10 per case)
- Average court fine—$75
- Presentence investigation fee—$10
- Probation followup fee—$20

COSTS:

(Eq. I-6) Court Support Costs = (5320) (15) = $79,800
(Eq. I-7) PSI Costs = (4788) (10) = 47,880
(Eq. I-8) Probation costs = (5320) (40) = 212,800
(Eq. I-9) Adjudication Costs = $79,800 + $47,800 + $212,800 = $340,480
3.5 Year Costs = 3(340,480) = $1,021,440

REVENUES:

(Eq. I-10) Court Fine Revenues = (5320) (75) = $399,000
(Eq. I-11) PSI Fee Revenue = (4788)(10) = (47,880)
(Eq. I-12) Probation Followup Revenue = (5320) (20) = $106,400
(Eq. I-13) Adjudication Revenues = 399,000 + 47,880 + 106,400 = $553,280
3.5 Year Revenues = (3) (553,280) = $1,659,840

Case C: A new revenue from ASAP activities would be realized under the following policy and operational assumptions:

- Level of PSI—Limited ($5 per case)
- Average court fine—$100
- PSI fee—$10
- Probation followup fee—$40

COSTS:

(Eq. I-6) Court Support Costs = (5320) (15) = $79,800
(Eq. I-7) PSI Costs = (4788) (5) = $23,940
(Eq. I-8) Probation Costs = (5320)(40) = 212,800
(Eq. I-9) Adjudication Costs = $79,800 + $23,940 + $212,800 = $316,540
3.5 Year Costs = 3(316,540) = $940,620

REVENUES:

(Eq. I-10) Court Fines Revenues = (5320) (100) = $532,000
(Eq. I-11) PSI Fee Revenues = (4788) (10) = $47,880
(Eq. I-12) Probation Supervisory Fee = (5320) (40) = $212,800
(Eq. I-13) Adjudication Revenues = 532,000 + 47,880 + 212,800 = $792,680
3.5 Year Revenues = 3(792,680) = $2,378,040

Rehabilitation

Rehabilitation costs and revenues are based on the following policy decisions and operational estimates, which are applied to all three cases under consideration.

- Number of "social drinker" DUI cases—1292
- Assigned to educational school (100 percent)—1292
- Number of "mid-range problem drinker" DUI cases—1724
- Assigned to educational school (50 percent)—862
- Assigned to ATP (50 percent)—862
- Number of "severe problem drinker" DUI Cases—1292
- Assigned to ATP (60 percent)—775
- Assigned to group therapy (40 percent)—517
- Costs of rehabilitation borne by the county government.
- A standard fee will be charged all DUI offenders
- Revenues from the rehabilitation program flow to the county government.

Case A: Rehabilitation services will be provided as a part of the community supported ASAP.

- Standard rehabilitation fee—$0

COSTS:

(Eq. I-14) Educational School = (1292 + 862) (25) = $53,850
ATP = (862 + 775) (65) = $106,405
Group Therapy = (517) (90) = $46,530
Total Rehabilitation Costs = $53,850 + $106,504 + $46,530 = $206,785
3.5 Year Costs = 3(206,785) = $620,355

REVENUES:

(Eq. I-15) Total Rehabilitation Revenues = (1292 + 862 + 862 + 775 + 517) (0) = $0
3.5 Year Revenues = (3) (0) = $0

Case B: Under an average cost-effective ASAP, costs of rehabilitation would be shared by offenders and the community.

- Standard rehabilitation fee = $25

COSTS: Same as Case A

(Eq. I-4) Total Rehabilitation Costs = $206,785
3.5 Year Costs = $620,355

REVENUES:

(Eq. I-15) Total Rehabilitation Revenues = (1292 + 862 + 862 + 775 + 517) (25) = $107,700
3.5 Year Revenues = $323,100

Case C: Maximum cost-effectiveness would be realized when the rehabilitation program was self-supporting:

- Standard rehabilitation fee = $50

COSTS: Same as Case A

(Eq. I-14) Total Rehabilitation Costs=$206,785
3.5 Year Costs=$620,355

REVENUES:

(Eq. I-15) Total Rehabilitation Revenue = (1292 + 862 + 862 + 775 + 517) x (50) = $215,400
3.5 Year Revenue = 3 x (215,400) = $646,200

Summary of Design Phase Simulation

The effects of the different policy decisions and operational estimates made during the determination of ASAP costs and revenues for Case A, Case B, and Case C are summarized in Table 5-22.

Under the assumptions of Case A, a community supported ASAP of 3 year duration with a 6 month start-up period would require a total city commitment of $1,867,000 (including $162,000 for start-up funds) with the county providing net additional funds of $916,000. Over 80 percent of city costs would be for additional law enforcement activities resulting in no additional income. Nearly 64 percent of the county expenses would be to provide judicial services, but these costs would be partially offset by fines levied by the courts. Rehabilitation costs would also be the responsibility of the county and would not generate any revenue. Total cost to the community would be $2,783,000 with two-thirds of the funds provided by city government.

The average cost-effective ASAP presented in Case B would result in a net cost to the community of approximately $390,000. However, due to the different functions performed by the city and county governments, the city would have net annual costs of $211,000 (plus start-up costs of $99,000) while the county would realize net revenues of $114,000 per year from court fines and rehabilitation fees. This inequity in costs and revenues could possibly be reduced by altering the responsibilities of the two governmental entities or through some other agreed-upon funding and revenue sharing arrangement between the city and county governments.

The high cost-effective ASAP considered in Case C results in net revenues of $1,182,000 to the combined city and county governments. Under the policy decisions presented, the county would receive net revenues of over $484,000 annually, with the city government realizing net annual costs of $70,000 (plus $63,000 in start-up costs). Again, better balance in revenues between the city and county may be achieved through reassignment of responsibilities or other local arrangements between the involved governmental entities.

Costs to DUI Offenders

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

In many cities with on-going ASAPs, it is the policy of the law enforcement agency involved to have the vehicles of DWI offenders towed to a central impoundment area if there is not a second nonimpaired person available to move the vehicle. Towing and impoundment charges are then levied against the driver. In those cities evaluated that follow a towing policy, fees range from $10 to $25 plus storage charges. A fee of $25 is assumed for this analysis.

Bonds required of DUI offenders generally range from $125 to $500 in those cities requiring bonds for release from jail. Bondsmen fees for those unable to meet the stated bond varies from 10 percent to 15 percent of the bond value. Bonds required in the cities studied average approximately $300; bondsmen fees average $30.

Attorneys' fees for DUI cases vary greatly from area to area and are also dependent on the number of court appearances required for each case. Average fees in the cities evaluated ranged from $300 to more than $500 per case, with an overall average of $450.

As can be seen in Table 5-23, the DUI fine and fee policies established for the three cases considered in the simulation resulted in a direct cost to the DUI offender of $50 to $200. However, even in Case C where the most severe fines and fees were levied, total policy related costs amounted to less than 30 percent of the total costs assumed by the drinker driver arrested for DUI. Even in those cases where all fines and fees are waived, nonpolicy related costs to the DUI offender average in excess of $500.

Conclusions

The three cases evaluated in this simulation are presented to illustrate how the algorithm developed in the preceding section can be applied during the design of a locally funded ASAP. They show the effect different policy decisions have on the resulting costs and revenues to the community. An ASAP, to be effective, must be designed to meet local goals and needs, and would probably include elements from each of the examples presented. Through proper predesign planning and operational design, a locally funded ASAP can be established that will be essentially self-supporting while providing the community with an effective program responsive to the problem of the impaired drinking driver.

TABLE 5-22

SUMMARY OF ASAP DESIGN ACTIVITIES

Item	County			City		
	Start-up	Annual	3.5 Yr.	Start-up	Annual	3.5 Yr.
Case A: *Community-Supported ASAP*						
Administration				40,000	90,000	310,000
Enforcement Costs				121,716	478,170	1,556,226
Enforcement Revenues				—	—	—
Adjudication Costs	—	364,420	1,093,260			
Adjudication Revenues	—	(266,000)	(798,000)			
Rehabilitation Costs	—	206,785	620,355			
Rehabilitation Revenues	—	—	—			
Total	—	$305,205	$915,615	$161,716	$568,170	$1,866,226
Case B: *Average Cost-Effective ASAP*						
Administration				40,000	90,000	310,000
Enforcement Costs				59,270	232,848	757,814
Enforcement Revenues				—	(112,000)	(336,000)
Adjudication Costs	—	340,480	1,021,440			
Adjudication Revenues	—	(553,280)	(1,659,840)			
Rehabilitation Costs	—	206,875	620,625			
Rehabilitation Revenues	—	(107,700)	(323,100)			
Total	—	(113,625)	(340,875)	99,270	210,848	731,814
Case C: *Highly Cost-Effective ASAP*						
Administration				40,000	90,000	310,000
Enforcement Costs				23,285	91,476	297,713
Enforcement Revenues				—	(112,000)	(336,000
Adjudication Costs	—	316,540	949,620			
Adjudication Revenues	—	(792,680)	(2,378,040)			
Rehabilitation Costs	—	206,875	620,625			
Rehabiliation Revenues	—	(215,400)	(646,200)			
Total	—	(484,665)	(1,453,995)	63,285	169,476	(271,713)

TABLE 5-23

SUMMARY OF OVERALL DUI OFFENDER COSTS

COST SOURCE	Case A	Case B	Case C
Policy-Related Costs			
Traffic Violation Fine	0	10	20
Court Fine-DUI	50	75	100
PSI Fee	0	10	10
Probation Fee	0	20	40
Rehabilitation Fee	0	25	50
Sub-Total	**$ 50**	**$140**	**$220**
Nonpolicy-Related Costs			
Towing Fee	25	25	25
Bondsmen Fee	30	30	30
Attorney Fee	450	450	450
Total	**$555**	**$645**	**$725**

References

1. Hawkins, T.E., Scrimgeour, G.J., Krenek, R.F., Dreyer, C.B., Summary of ASAP results for application to State and local programs, Volume II-ASAP Costs. NHTSA Contract No. DOT-HS-5-01150. National Technical Information Service, Report No. DOT-HS-802-043. Springfield, Virginia 22161, August 1976.

2. Carr, Brian, Borkenstein, R.J., Perrine, M.W., Van Berkom, L.C., Voas, R.B., et al., International Conference on Research Methodology for Roadside Surveys of Drinking-Driving—Alcohol Countermeasures Workshop. NHTSA Contract No. DOT-HS-371-3-786. National Technical Information Service, Report No. DOT-HS-801 220. Springfield, Virginia, 22161, September 1974.

VI Management: Project Administration

Background

The Program's introduction of the "systems approach" to the communities as a means of controlling drinking drivers may prove to be one of its most successful contributions, especially since the approach continues to be used after the departure of special Federal funds. The "systems approach" is not a complex concept: it means harnessing all agencies concerned with drinking drivers to work together cooperatively, and also creating or improving the areas where different components mesh. But though the concept is not complex, it is novel to community agencies, with the result that they tend to be very pleased with its results.

Very shortly after the projects began in 1971, it became clear that the countermeasure agencies at the community level had no experience in cooperative activities. No single component could be "in charge," and each agency cooperated only to the point it found convenient, even when provided with extra resources. The police and the courts, especially, guarded their prerogatives closely and were wary of any encroachment. The idea of a "system" in which all agencies would change enough to enable all to operate better had no adherents and little understanding. Partly this was for the best of reasons—protecting the rights of individual drinking drivers. The various components of the system belong to the different branches of government. Each feels a responsibility to maintain its independence. For good legal reasons, police, proscutors, and judges preserve their independence. Courts and rehabilitation agencies are obligated to protect the rights of drinking drivers in different ways, even to protect them from other elements of the system. When these traditional autonomies found reflections in privacy laws or confidentiality regulations, then even the basic information flow between components could be seriously affected, and the project managers had to accept these intentional gaps in cooperation as a condition with which they must cope.

Other reasons for noncooperation were less logical, stemming from the desire of a component to concentrate on its own objectives and to protect its operations from outsiders. Such instincts were apparent in the absence of important activities as much as in the presence of harmful roadblocks. Data systems, training, simple procedural changes, scheduling, evaluation—the components of a good system which were the responsibility of no single agency—all tended to be ignored. And in no agency was highway safety the top priority. In only a very few communities did an influential highway safety agency even exist, and no agency had succeeded in convincing the components to emphasize overall highway safety goals at the expense of their own more limited objectives.

The task facing the Program (and, therefore, the Federal Government) was to ensure that the projects were located and designed so as to achieve consistent results nationwide. The task facing the projects' management was to take all existing, isolated activities of the component agencies and weave them into a systematic community action program aimed at drinking drivers.

Even the statewide projects were, in the end, local community efforts. All projects were operated by existing local personnel, with only management assistance from the projects and the Program. All the projects were dynamic, operating under varying pressures of local conditions. The process of managment from both the Program and the project levels was one of constant negotiation and mutual problem solving.

The projects had power over component agencies through contractual arrangements and goals set in the Detailed Project Plan. In the case of non-performance, these powers had to be used, but this was very rare. By far the greatest task for the projects was that of coordination. They had to provide leadership for a variety of community activities, establish communication between the different agencies, and they had to supply new technology and knowledge where needed. In some cases, they provided equipment, and special training in almost all countermeasure areas. The projects had to solve long term and short term problems by working with the agencies concerned and, where some component of the system was absent or lacking, to convince community management to create or improve it.

Approach

Objectives

- Coordinate the activities of the total system on a day-to-day basis while the project was being planned and organized, and after operations had commenced.
- Adjust operations in any one component, or in the whole system, in a responsive and timely manner based on experience and new information.
- Provide education and training for the staff of countermeasure agencies, including cooperative decision-making.
- Motivate the community, as necessary, to support system and component activities.
- Establish a basis for continuing those elements of the project found to be successful beyond the end of the project's existence.
- Establish a basis for expanding successful project activities to other communities within a State, either as a part of an ongoing highway safety program or as a way of adding highway safety emphasis to other kinds of ongoing programs.

Federal Role

The relationship of these projects to NHTSA was unique in that they were established under performance contracts rather than grants. Use of performance contracts enabled NHTSA to have a substantial involvement with the managing agency. The contract mechanism provided far better program management and fiscal control than either the grant-in-aid or cooperative agreement approaches. The managing agency was required to assume overall responsibility for the conduct of the project. Each project was required to submit, before becoming operational, a revised statement of work called the Detailed Project Plan. This Plan specified, as precisely as possible, what was to be done by the project, how, when, where, by whom, at what cost, and what the anticipated results would be.

The Plan served as a base for measuring the progress of each of the countermeasures and provided information to other agencies having an interest in the project. It applied to all participating agencies and was incorporated into each contract. This provided each project with the mechanism to document and describe its successes and failures. It also enabled NHTSA to maintain a general degree of uniformity, direction and development during the operational phase. This uniformity of general direction, with a recognition of the need for flexibility, was critical in maintaining the National program concept, particularly since the overall effort was diffused among 35 different projects operating within unique State and local environments.

It was realized early in the program that the ASAP was, in one sense, not a National program, but a series of local projects conducted nationwide. Despite the fact that each was in a different social, economic and political setting, there were some countermeasures common to all projects that NHTSA wanted to demonstrate and evaluate. Moreover, NHTSA wanted to evaluate a systems approach to the drunk driver problem to determine if impact could be made on alcohol-related highway facilities, injuries and crashes. Thus, selected data was collected from all projects upon which an overall program evaluation could be made.

Initially, the contract management responsibility for the projects was located at NHTSA Headquarters with Headquarters staff functioning as Contract Technical Managers (CTMs) for each project. After the first nine projects were funded, it was decided that, in order to be more responsive to the local community needs, the day-to-day contact between NHTSA and the projects should be handled through the ten NHTSA Regional Offices. As projects were identified as being acceptable for funding, a Regional person was assigned to assist the Headquarter CTM in the negotiations. At the conclusion of the planning and detailed plan development phase (usually 6 months), both the contract and financial management responsibilities for the projects were transferred to the Regional Offices.

The organizational relationships of a typical project are represented by Figure 6-1. This figure reflects the close coordination established between NHTSA Headquarters and the Regional Office, the project's State Governor's Representative for Highway Safety, and the project contractor. While local management responsibility was stressed, NHTSA had significant influence on the development and operation of the projects.

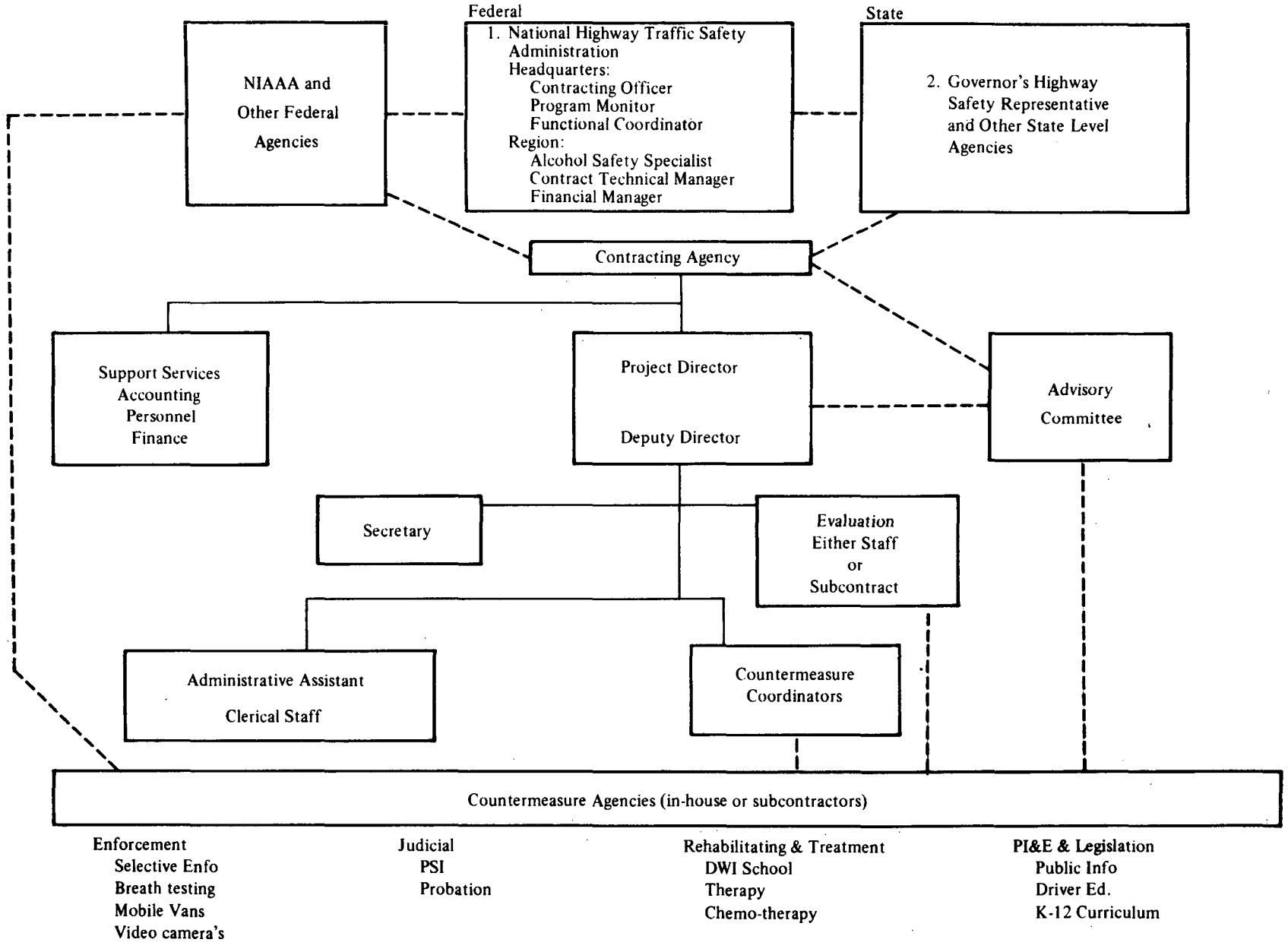
The Managing Agency

Community factors such as the relationship of the project to NHTSA, the pre-existing organizational structure of the jurisdiction, the managment resources needed to coordinate the various new and ongoing activities, and other unique local situations had a significant impact on the choice of managment agency, and the management structure and organization ultimately adopted by each project.

The position of the management office within the political structure of the community was another variable of significance in the success or failure of the projects. Seventeen of the projects were contracts with city or county governments. With few exceptions, these projects were in an enviable position of having the support of the Mayors or County Managers. This gave the Project Director the status needed to function effectively in dealing with Department heads such as police chiefs, judges and city/county rehabilitation agency directors.

FIGURE 6-1

MANAGEMENT RELATIONSHIPS BETWEEN NHTSA AND THE ASAPs



Approximately one-fourth of the projects were administered through Governors' Representatives for Highway Safety. The Projects funded under this arrangement had the advantage of being in an agency whose objectives coincided with ASAP—reduction of highway lossess—and having the support of the Office of Highway Safety in the State. In most of the projects administered by the Governors' Representatives for Highway Safety, a transfer of a significant portion of activities, including management structure, from Federal funding to local support has taken place.

A few of the ASAPs were administered through local health agencies. Some of these tended to emphasize rehabilitation rather than highway safety. In some of these projects the management structure was assigned at such a level within the city, county, or State that difficulty was encountered in getting cooperation from other agencies within the political jurisdiction. Yet these agencies, despite their low rank in the governmental structure, were able to utilize other means, including their advisory committees, to gain support for their program. Half of the ASAPs located in health agencies were able to develop sufficient support to achieve continuation of major elements of their programs after Federal funding terminated. At two of the sites, a catalytic effect resulted in an expanded program.

Review of project operations revealed that the success of the projects in coordinating the activities of sister agencies involved in the project directly corresponded to the status and influence of the managing department within the political jurisdiction.

Experience gained in the projects indicated that it is best to select as the prime contractor a political entity, such as the Mayor's office, and entrust that body with overall responsibility for traffic safety, public health, and court operations. The prominence of the prime contractor and the managing agency, as well as project sponsorship by a high ranking official, were critical ingredients that influenced the project's effectiveness.

In all of the ASAPs, the prime contractor was within the geographic location of the ASAP site or had a full-time Project Director and support staff on site. In some cases, the Public Information and Education, and Evaluation, were located elswhere. With few exceptions, those projects that did not have the Evaluation, and Public Information and Education countermeasures located nearby had difficulty maintaining the day-to-day continuity needed to run the project effectively. Various arrangements evolved. In most cases, this included the assignment of a full-time staff person on-site. Certainly, in such a demanding program, having the various components in close proximity to each other is critically important.

Project Management

The key person was the Project Director. The role of Project Director required considerable ability as a coordinator, negotiator, manager, motivator, and salesman. This one individual was the focal point for all day-to-day project activities—responsible for providing the leadership, liaison, and management decisions necessary to achieve project objectives within the budget, and to meet schedules and performance requirements specified in the contract. To perform this role, considerable knowledge of the community alcohol and highway safety problems, participating agency operations, evaluation, systems design, governmental management, and the political environment (power structure) within the community was needed.

ASAPs were extraordinarily complex programs. Most projects started without the help of people experienced either in highway safety or the treatment of drinking drivers. This did not seem to matter. Generally, those Project Directors whose backgrounds included experience in dealing with the power structure in the community turned out to be more successful in implementing their programs.

The size and structure of the project staff varied considerable and evolved as needs became apparent. NHTSA required that each project have a full-time evaluation specialist, either on the project staff or employed through a subcontract. Beyond this requirement, each project differed significantly in its staffing structure. Some had coordinators for each countermeasure on the project staff, while others provided funds to the various countermeasure agencies to hire coordinators. Figure 6-2 is an example of a typical project organizational structure.

The advantage of employing countermeasure specialists and evaluators as staff members included increased loyalty and commitment to the project and a much clearer perspective of the relationship of their special functions to overall project goals. The benefits of hiring a countermeasure specialist working within the operational agency included the likelihood of better rapport between the person and his agency, and, in some instances, stability of staff as the project proceeded.

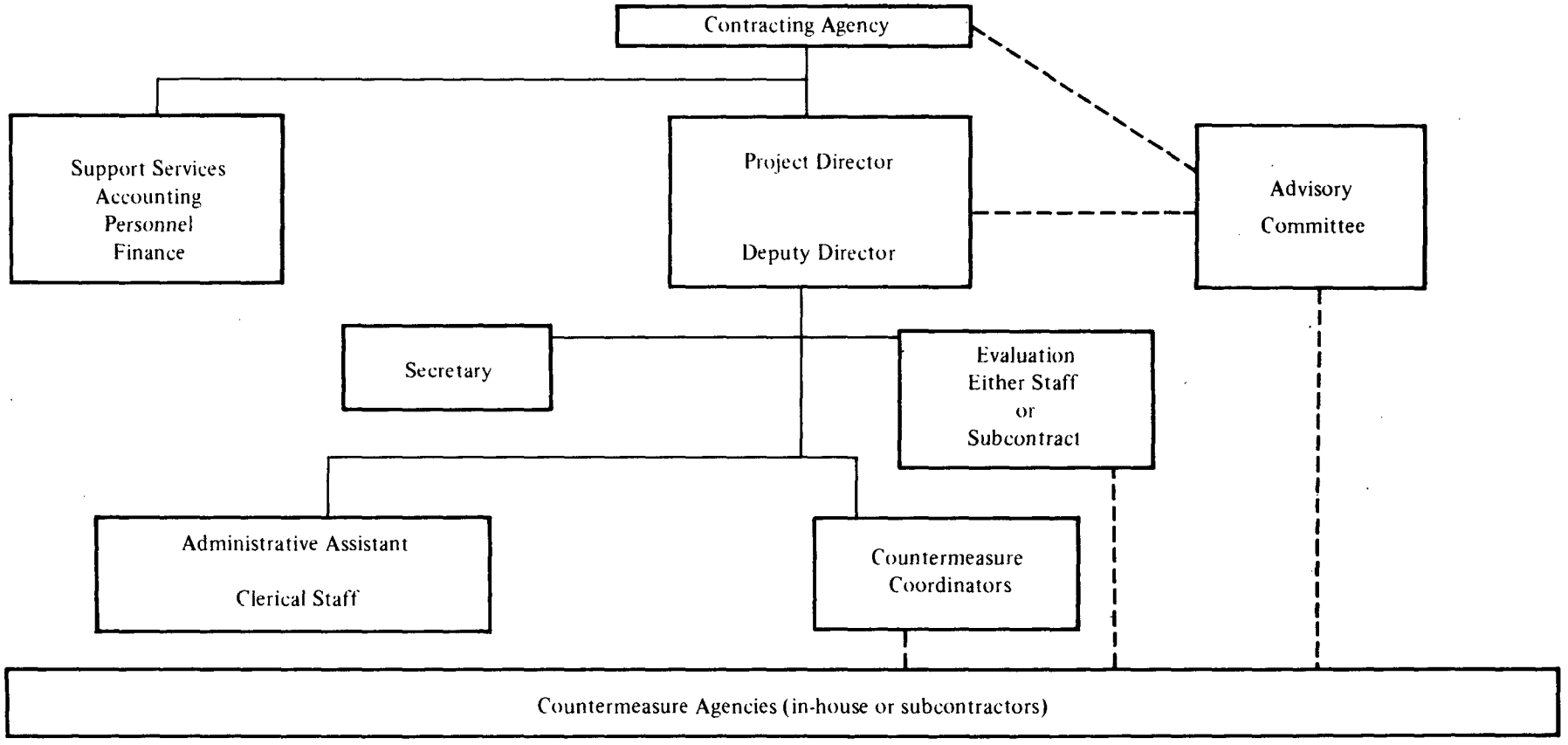
Even if he was not on the project staff, the evaluator reported to the Project Director. A key to project success was the relationship that developed between evaluator and Project Director. Some critics saw "in-house" evaluation as not being objective. Regardless of location, whether "in-house' or "subcontract," the professionalism of the evaluator determined his ability to remain objective.

Use of Advisory Committees

In the formative stages of project planning, NHTSA strongly encouraged the use of advisory committees. Active advisory committees with clearly defined objectives and responsibilities (such as generating public support, providing technical monitoring and supplementing the authority of the Project Director) contributed to the successes achieved within the project. While advisory

FIGURE 6-2

EXAMPLE OF AN ASAP ORGANIZATION



committees should have sufficient stature and influence to make decisions care must be taken to preserve the managerial authority of the Project Director. A clear definition of the committee's role increases its usefulness, as well as firmly establishing its position as an advisory body whose imput may or may not be used by the Project Director.

The effective advisory committees were made up to key members of the agencies and organizations that contributed to the operational activities of the project, as well as other influential members of the community. Selection of committee members was based upon the following qualifications:

- genuine interest in project goals;
- an influential position in well-known agency or within the community at large;
- experience and knowledge of the traffic safety activities and alcohol treatment activities conducted by the projects;
- authority within the agency to make decisions and give direction for the project operational activities.

The chairperson of the successful advisory committees had sufficient authority to organize and guide the committee toward achievement of project goals. In most instances, he was a respected judge, mayor, educator, chief of police, or Governor's Highway Safety Representative.

When properly organized, the advisory committees were of great assistance to the Project Director in promoting interagency cooperation, providing valuable expertise and services, and developing community support for the program.

The extent to which projects were successful in utilizing their advisory committees varied considerable. Moreover, the concept was successful particularly in the formative stages of the project operations when wholehearted agency support for project operations was critical. Advisory committee support was also very important in establishing a solid base for continuation of activities beyond the Federal funding period.

NHTSA Assistance

NHTSA-sponsored management and evaluation workshops were held with all of the Project Directors and evaluators to:

- resolve problems common to each site;
- discuss goals, objectives and evaluation techniques;
- enhance the prospects for implementation of innovative countermeasures;
- establish the concept that the use of control groups in evaluation of demonstration programs is feasible;
- provide a forum for the projects to gain national visibility, which, in turn, helped them to expand their program beyond the project area.

These meetings were important both from the standpoint of NHTSA staff gaining an appreciation of the tremendous problems the projects faced and the cohesiveness of purpose and direction that eventually surfaced in most of the projects. NHTSA also sponsored Organizational Development Conferences at most sites. The primary purpose of these conferences was to obtain maximum cooperation, understanding and input into project decision-making by the local participating agencies to assist the project in meeting its goals and objectives. In those instances where the Project Director was directly involved and conferences were held early in the planning and development stage, they were of considerable benefit in formulating policy and procedures.

Specialized workshops in the areas of breath-testing, presentence investigations, enforcement, rehabilitation and treatment, judicial processes, etc., were also sponsored by NHTSA and proved in most instances to be highly successful in improving the qualifications of the personnel involved. These Federal funds bought training that would otherwise not have been supplied. The Federal support for training for judges, presentence and probation staff, and police officers was extremely well-used. without NHTSA's sponsorship, training for most people would have consisted entirely of on-the-job training and listening to talks by the project staff, neither of which would have achieved the most desirable results.

Evaluation

A significant portion of each project's funding was directed toward evaluating the successes, failures, and related costs of the overall project and its components. This was intended to establish an information base for decision-makers to use in considering the continuation and expansion of the components and to provide sufficent data on which to conduct both impact and administrative evaluation. The evaluation and data collection effort also constituted a significant portion of the Project Management Information System which was required to effectively manage the overall project and individual countermeasures. In almost every instance, no comprehensive system existed for the flow of information between agencies and, where it did exist, it was either incomplete, inaccurate or ignored. ASAP was able in most cases to provide this vital system function of creating and maintaining continuity of data flow. It was able to provide data about the operational aspects of the agencies involved, such as arrest rate, conviction rate, court backlog, Blood Alcohol Content (BAC) data, rehabilitation attendance, recidivism, and accident and violation data. Prior to the implementation of the projects and their management units, this evaluation system did not exist.

Findings

The ASAP Mangement System Works.

Project Management (Location).

Management may be located in either State, county, or

city governmental units. Each choice will give the project a different relationship to the agencies and people actually handling the drinking driver offenders. In all cases, there should be a clear channel of communication from the project staff to the Office of the Governor's Representative for Highway Safety and other State and local agencies involved in the project.

The project is a local community action program since it coordinates the activities of existing agencies within specified geographical limits. The location of the project may, therefore, properly be influenced by the size of the problem and by the agencies already handling that driver population. If State legislation calls for establishment of a statewide ASAP program, the overall consistency and standardization can only be achieved through a State agency providing overall program guidance and policy to local projects established as the local needs dictate.

No single type of local or State agency appears to be best suited to managing a project. However, experience has shown that overall project objectives are best supported during the planning, operations, and continuation phases by selecting a governmental unit which has overall responsibility in the areas of traffic safety, public health, and court operations.

Management Staff Size.

Staff size is dependent on the size of the area's population, but in no instance should it be very large. The most important individual is the Project Director. The Project Director has overall responsibility for project objectives. The Project Director needs expertise in community-wide programs and governmental management. Knowledge of alcoholism, highway safety, criminal justice, public health, and education are also required. The Director should also be given sufficient status to deal with the heads of the countermeasure agencies.

Existing Directors came from a wide variety of professional backgrounds. The more successful Directors came from the local communities and were familiar with some aspect of the local government operations. The job is eclectic, and flexibility is essential, as "going by the book" is not conducive to success.

Almost all of the projects hired countermeasure coordinators, each with the special responsibility for day-to-day liaison in a specific countermeasure area. Most popular were coordinators for enforcement, the courts, rehabilitation, and public information and education. If the project did not have coordinators on its staff, then it was necessary for each countermeasure agency to designate a person as the countermeasure coordinator.

System Improvement

- With accident dividends seen in perspective, it is easier to give proper weight to the Program's other intended achievements. Here, two results are paramount:

- The Program involved both the criminal justice system and the health care system in a highway safety program to an extent never before achieved and sustained. The priority of the drinking driver problem was never previously apparent in the consciousness of a community's decision-makers. There is every sign that this effect is long-lasting. Among all misdemeanor offenses, DWI cases now stand out as both important and susceptible to purposeful response. Among all problem drinkers, DWI offenders referred by courts stand out as different and more susceptible to intervention. Both the criminal justice system and the treatment profession at project sites have completely accepted the highway safety event—driving while intoxicated—as the point where society has the right and the responsibility to intervene in a drinker's life.

- The program convinced communities to concentrate efforts on the highest risk groups, the problem drinkers. There had been no previous attempt nationwide to identify this group as worthy of special attention because of their high cost to society. Previous compaigns have tended to be prohibitionist in mentality, aiming at all persons who drink (some 80 percent of the adult population). Concentration on the at risk population—some 5 percent to 15 percent of the adult population—narrows the target group and removes the antagonism raised by anti-drinking programs. The Program has provided communities with a concept that specifies how much of a problem alcohol is causing them, how it is causing it, and how they may fairly combat it.

These two factors account for the Program's popularity at the local and State level. Community managers do not expect as much from the Program as do the highway safety experts. They know already that there is no simple solution; they look rather for a cost-effective response, and they see the Program as providing them with a model for such a response.

The Program showed another important result: it is possible to raise the level and intensity of a commnity's response to drinking drivers without greatly increasing costs and without antagonizing the general citizenry. This is important because of the Program's original premise: that activity levels prior to 1970 were far too low ever to affect the driving population. Project after project reported changes in public attitudes and driving patterns as a result of the Program. In some communities "DWI" had been a joke; after the Program, enforcement had at least become a real threat, and DWI was not so amusing. Though no project was able to determine the level of enforcement that would permanently depress the amount of drinking driving, many seem to have gotten close enough to indicate where the point lies. It became clear that a community has to get serious about DWI if the Program is to have the effects it wants.

As intended, the Program demonstrated exactly how and where the traditional system for controlling drinking drivers needs improvement. With various projects reaching high efficiency levels towards the end of their three year terms, and with the results of reliable evaluations pouring forth, it became obvious 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 much more than at present, with little extra effort. Courts need the capability for presentence investigation and probation, and both activities can be carried out more cheaply than had been expected. 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 now recognized as 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 already come into existence which are good enough to offer to other jurisdictions. The state-of-the-art has advanced dramatically.

Availability of Skilled Manpower

A large pool of skilled manpower has been created that can be of material assistance to the State and local highway safety programs. The staffs of the projects all now have valuable experience in dealing with social programs and know how the systems techniques can be applied to these types of progams. In addition, there is a large number of police, defense attorneys, and prosecutors, judges, probation officers, and personnel in social service and medical agencies who now accept highway safety as a reasonable cause and the systems technique as a viable method with which to deal with social programs. Almost all of these involved people who have had their attitudes and procedures changed. Most tend to be society's decision-makers and are highly influential.

Recommendations

The ASAP approach clearly demonstrated the benefits to a community of deliberately "managing" the activities of the separate components of the drinking driver control system. It showed that, as long as a small special staff is used, given a specific charter and sufficient authority, the benefits can be won at very small cost and at an overall savings as efficiency improves.

The ASAP approach, however, relies on creation of a whole system, not on piecemeal activities; on a strong priority for the processing of drinking driver cases, not on improvisation. Neither the criminal justice system nor the health care system will respond with full efficiency unless community management provides both the demand and the resources to achieve that efficiency. There is a strong and demonstratable reason for communities to create a professional, respected, full-time management unit to manage the drinking driver control system and solve those problems which cannot be solved by one component alone.

Any such management unit should operate from a high status level within community government, reflecting the seriousness of the government's concerns. Its activities should cover the drinking driving programs of *all* agencies, not just some. The unit should not belong to one segment of the control system but, rather, should meet with them as an impartial equal representing the highway safety interests of the community.

To represent the systems approach as primarily the addition of "education and rehabilitation" to traditional sanctions is to destroy that approach immediately. Much more important is the need to:

- Identify all agencies involved with drinking drivers.
- Create and require performance standards for each agency.
- Take control of the data and information system.
- Create all missing components of the system, and assign responsibility to the management unit for all activities that belong to several agencies rather than just one.
- Evaluate the system on an ongoing basis.

The 35 projects left behind them a reservoir of skilled manpower. They also created a body of experience concerning what does and does not work. It would be irresponsible to encourage communities to begin activities known to be unsuccessful, such as creation of part of a system, or creation of a system without management. It would be equally irresponsible to omit proper aid to desirous communities, since the ASAP management approach has demonstrated its effectiveness and popularity in the eyes of community managers.

ASAP Summary Report Bibliography
NHTSA Publications

Bishop, Edward—*Police Management Training: Factors Influencing DWI Arrests Planning Guide*, October 1976.

The Collection . . .

Alcohol Safety Action Projects—Evaluation of Operations 1972

Volume I	SUMMARY
Volume II	DETAILED ANALYSIS
Chapter I	Development and Management of the ASAP Program
Chapter II	ASAP Program Evaluation Methodology and Overall Impact
Chapter III	Evaluation of the Enforcement Countermeasure Activities
Chapter IV	Evaluation of the Judicial and Legislative Countermeasure Activities
Chapter V	Evaluation of the Presentence Investigation and Probation Countermeasure Activities
Chapter VI	Evaluation of the Rehabilitation Countermeasure Activities
Chapter VII	Evaluation of the Public Information and Education Countermeasure Activities
Volume III	PROJECT DESCRIPTIONS

Alcohol Safety Action Projects—Evaluation of Operations 1974

Volume II	DETAILED ANALYSIS
Chapter I	ASAP Program Evaluation Methodology and Overall Impact
Chapter II	Evaluation of the Enforcement Countermeasure Activities
Chapter III	Evaluation of the Judicial and Legislative Countermeasure Activities
Chapter IV	Evaluation of the Presentence Investigation and Probation Countermeasure Activities
Chapter V	Evaluation of the Rehabilitation Countermeasure Activities
Chapter VI	Evaluation of the Public Information and Education Countermeasure Activities Proceedings

Filkins, L.D., and Geller, N.K., *Proceeding of a Conference on Community Response to Alcoholism and Highway Crashes*, Highway Safety Research Institute, University of Michigan, 1970.

Kerlan, M.W., Mortimer, R.G., Mudge, B., and Filkins, L.E., *Court Procedures for Identifyig Problem Drinkers*, the University of Michigan, Highway Safety Research Institute, June 1971. Two Reports and Three Volumes:

Report on Phase I		DOT-HS-800-630
Final Report; Phase II		DOT-HS-800-631
Volume I	Manual	DOT-HS-800-632
Volume II	Supplement Readings	DOT-HS-800-633
Volume III	Scoring Keys	No Number

Filkins, L.D., Mortimer, R.G., Post, D.V., Chapman, M.M., *Field Evaluation of Court Procedures for Identifying Problem Drinkers*, The University of Michigan,

Highway Safety Research Institute, May 1974, Report Number DOT-HS-801-091.

Hawkins, T.E., Scrimgeour, G.J., Krenek, R.F., Dreyer, C.B., *Summary of ASAP Results for Application to State and Local Programs* Volume I-III, August 1976. Southwest Research Institute, San Antonio, Texas. Report numbers DOT-HS-801-963, 4 and 5.

Volume I	ASAP Findings
Volume II	ASAP Costs
Volume III	Training Guide Instructor's Manual

Human Resources Research Organization *Handbook for Project Directors ASAP,* August 1971, Report Number DOT-HS-003-1-003.

Lehman, R.J., Wolfe, A.C., Kay, R.D., *A Computer Archive of ASAP Roadside Breathtesting Surveys*, 1970-1974. The University of Michigan, Highway Safety Research Institute, January 1975, Final Report, Report # DOT-HS-801-502.

McKnight, A.J., Adams, B.B., Personeus, E.E., *Handbook for Directors of Alcohol Safety Action Projects (ASAPs)*. September 1971, Human Resources Research Organization. Final Report # DOT-HS-800-544.

Promisel, D.M., Blomberg, R.D., and Oates, J.R., *ASAP Evaluation Manual*, Dunlap and Associates, March 1971. Contract Number FH-11-7541.

Swinehart, J.W., Grimm, A.C., *Public Information Programs on Alcohol and Highway Safety*. The University of Michigan, Highway Safety Research Institute, 1972.

Traffic Safety Programs, *Management and Evaluation Handbook for NHTSA Demonstration Projects in Highway Safety*. Office of Driver and Pedestrian Programs, Demonstration Evaluation Division, 1976.

Voas, R.B., Proceedings of the National Highway Safety Bureau Priorities Seminar, Volume II: *Alcohol and Highway Safety Countermeasures,* July 1969.

Wolfe, A.C., *1973 U.S. National Roadside Breathtesting Survey: Procedures and Results* Interim Report. October 1974. The University of Michigan, Highway Safety Research Institute Report Number DOT-HS-801-241.

The Collection of National Trend Data on Alcohol Related Crashes for Comparison with Alcohol Safety Action Projects Results:

Volume I	National Trend Sample, DOT-HS-5-01229—July 1977
Volume II	ASAP Control Site Data, DOT-HS-5-01229—July 1977

ADDRESSES

Highway Safety Research Institute
The University of Michigan
Huron Parkway and Baxter Road
Ann Arbor, Michigan 48105

Human Resources Research Orgnaization
300 North Washington Street
Alexandria, Virginia 22314

U.S. Department of Transportation
National Highway Traffic Safety Administration
400 7th Street, S.W.
Washington, D.C. 20590
202/426-0077

ASAP BY STATES IMPACT

(Analytic Study # 1)

ARKANSAS, PULASKI COUNTY, DOT-HS-056-1-073, June 30, 1975

ARIZONA, PHOENIX, DOT-HS-052-1-068, 1977

CALIFORNIA, LOS ANGELES, *Project Impact*, 1973-1975, Final Report # DOT-HS-161-2-252

COLORADO, DENVER, DOT-HS-22-7534, May 1974, *Final Report*, June 1974

DELAWARE, DOT-HS-157-2-247, *Final Report*– December 1975

FLORIDA, GREATER TAMPA, DOT-HS-062-1-080, June 3, 1977

GEORGIA, COLUMBUS, DOT-HS-157-1074, June 1976 *Final Report*: **Evaluation of Impact, January** 1972-December 1974

IDAHO, DOT-HS-153-2-239, May 30, 1974

INDIANA, INDIANAPOLIS, DOT-HS-058-1-075, Ultimate Performance Measures, *Final Report*, July 1975

IOWA, SIOUX COUNTY, DOT-HS-163-2-256, December 1975

KANSAS, WICHITA AND SEDWICK COUNTY, DOT-HS-054-1-070, June 1975

LOUISIANA, NEW ORLEANS, DOT-HS-059-1-076, October 1976

MAINE, CUMBERLAND AND YORK COUNTIES, DOT-HS-037-1-044, *An Analysis of Ultimate Performance Measures to Determine Total Project Impact with Abstract,* June 1974

MARYLAND, BALTIMORE, DOT-HS-043-1-059, *Annual Report*, 1974

MASSACHUSETTS, BOSTON, DOT-HS-075-1-098, No Date

MICHIGAN, WASHTENAW COUNTY, DOT-HS-11-7535, 1973, *Final Report*

MINNESOTA, HENNEPIN COUNTY, DOT-HS-048-1-064, No Date

MISSOURI, KANSAS CITY, DOT-HS-077-1-100, *Ultimate Performance Measures*, July 1975

NEBRASKA, LINCOLN, DOT-HS-044-1-060, *Ultimate Performance Measures*, May 1974, *Final Report*, July 1975 and *Rationale for Evaluation Research*, July 1973

NEW HAMPSHIRE, DOT-HS-055-1-071, 1977

NEW MEXICO, ALBUQUERQUE, BERNALILLO COUNTY DOT-HS-11-7548, May 30, 1974

NEW YORK, NASSAU COUNTY, DOT-HS-11-7547, *Analysis of Overall Project Impact,* December 1973

NORTH CAROLINA, CHARLOTTE-MECKLENBURG COUNTY, DOT-HS-11-7538, *Ultimate Performance Measures,* April 1974, *Impact of ASAP,* April 1974

OHIO, CINCINNATI, DOT-HS-050-1-066, *Total Project Impact*, May 1975

OKLAHOMA, OKLAHOMA CITY, DOT-HS-051-1-161, June 1976, Final Report: *Effectiveness and Efficiency*, 1972-1976

OREGON, PORTLAND, DOT-HS-11-7536, *Ultimate Performance Measures*, September 1973

PUERTO RICO, DOT-HS-160-2-251, Final Report November 1975

SOUTH CAROLINA, RICHLAND COUNTY, DOT-HS-038-1-045, *Ultimate Performance Measures, April 1975*

SOUTH DAKOTA, DOT-HS-045-1-061, 1975

TEXAS, SAN ANTONIO, DOT-HS-049-1-065, May 1975, *Abstracts,* May 1976

UTAH, SALT LAKE, WASATCH FRONT, DOT-HS-159- December 1975 and 1976

VERMONT, FAIRFAX COUNTY, DOT-HS-067-1-087, Final Report: *An Analysis of Ultimate Performance Measures to Determine Total Impact*, Progress Report No. 5, January-December 1976.

WASHINGTON, SEATTLE/KING COUNTY, August 1973

WISCONSIN, MARATHON AND SHEBOYGAN, DOT-HS-11-7545, Final Report, June 1973.

OVERVIEW OF ASAP COSTS BIBLIOGRAPHY

Blount, William R., "Tampa Alcohol Safety Action Project Costs and Revenues (1971-1974)," October 31, 1975.

Clark, Susan G., "Fairfax Alcohol Safety Action Project Costs and Revenues (1971-1974)," October 31, 1975.

Ellingstad, Vernon., "South Dakota Alcohol Safety Action Project Costs and Revenues (1971-1974)," October 1, 1975.

Glauz, William D., "Kansas City Alcohol Safety Action Project Costs and Revenues (1971-1974)," October 7, 1975.

Hawkins, Thomas E., "San Antonio Alcohol Safety Action Project Costs and Revenues (1971-1974)," September 5, 1975.

Herbert, C.J., "New Orleans Alcohol Safety Action Project Costs and Revenues (1971-1974)," October 10, 1975.

Krenek, Richard F., "Oklahoma City Alcohol Safety Action Project Costs and Revenues (1971-1974)," September 29, 1975.

"Phoenix Alcohol Safety Action Project Costs and Revenues (1971-1974)," October 16, 1975.

Romslo, Floyd., "Hennepin County Alcohol Safety Action Project Costs and Revenues (1971-1974)," January 15, 1976.

Southwest Research Institute., "Data Acquisition Forms and Instructions for Summarization of ASAP Results, Costs and Revenues (1971-1974)," August 29, 1975.

Ulmer, Robert., "New Hampshire Alcohol Safety Action Project Costs and Revenues (1971-1974)," October 15, 1975.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1979-632-634/200

DOT-HS-804-033
MAY 1979