DOT HS 804 021

1976 SELECTIVE ENFORCEMENT ANALYSIS: INCLUDING A REPORT ON THE EFFECT OF PORTABLE BREATH TEST DEVICES ON DETECTION/APPREHENSION OF DRINKING DRIVERS

Tampa ASAP Analytic Study #3

William R. Blount
Daniel P. Westra

University of South Florida
Department of Criminal Justice
Tampa, Florida 33620

Contract No. DOT HS-059-1-076
Contract Amt. $3,691,000

PRINTED APRIL 1979
FINAL REPORT

Document is available to the U.S. public through
The National Technical Information Service,
Springfield, Virginia 22161

Prepared For

U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Washington, D.C. 20590

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
DOT HS 804 021		

4. Title and Subtitle	5. Report Date
1976 Selective Enforcement Analysis: Including a Report on the Effect of Portable Breath Test Devices on Detection/Apprehension of Drinking Drivers - Tampa ASAP Analytic Study #3	May, 1977
	6. Performing Organization Code
7. Author(s) W. R. Blount, D. P. Westra	8. Performing Organization Report No. #053077:SE
9. Performing Organization Name and Address * University of South Florida Department of Criminal Justice Tampa, Florida 33620	10. Work Unit No. (TRAIS)
	11. Contract or Grant No. DOT HS-062-1-080
12. Sponsoring Agency Name and Address U.S. Department of Transportation Office of Driver & Pedestrian Programs Washington, D.C. 20590	13. Type of Report and Period Covered Final Report 1/1/72 - 12/31/76
	14. Sponsoring Agency Code

15. Supplementary Notes

*Under contract to: City of Tampa
Metropolitan Development Agency
1420 Tampa Street
Tampa, Florida 33602

16. Abstract

This analytic study was concerned with the performance of the selective enforcement unit funded by the Tampa ASAP. The report contains three sections: Section I providing a detailed description of the selective enforcement countermeasures and arrest procedures; Section II summarizing the performance and efficiency of the selective enforcement squads with comparisons to regular patrols; and Section III presenting the results of a special pre-arrest breath test study.

A significant increase in alcohol related arrests was noted immediately after the initiation of the 21 additional selective enforcement officers. The arrest rate remained high throughout the life of the project, although a general reduction in the number of arrests was seen in the last project year.

The one year experiment comparing non-ASAP officers with a portable breath testing device (PABT) available to them and non-ASAP officers without a PABT device available to them indicated a significant increase in alcohol related arrests for officers with the device. It should be noted that both experimental and control officers were randomly selected from a pool requiring a history of alcohol related arrests (at least an average of 2 per month for a minimum of 6 of the 12 months immediately preceding the study). Neither the experimental nor the control officers were aware of their participation in the study. Further, the six months between officer selection and the actual issue of the PABT's showed nonsignificant differences in the alcohol related arrest rate for the two groups. No significant change in arrested driver BAC was found.

17. Key Words	18. Distribution Statement
Alcohol Safety Action Program (ASAP), DWI arrests, traffic safety, DWI enforcement, portable breath testing device.	Document is available to the U.S. public through the National Technical Information Service, Springfield, Virginia 22161

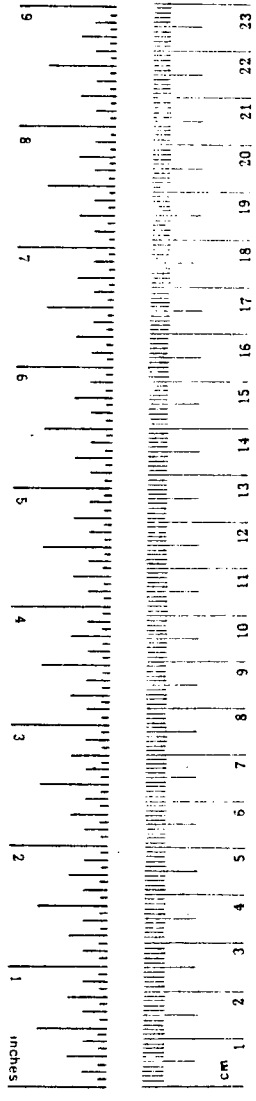
19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	29	

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
in	inches	*2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
		AREA		
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
		MASS (weight)		
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
		VOLUME		
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
		TEMPERATURE (exact)		
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

*1 in = 2.54 (exactly). For other exact conversions and more detailed tables, see NBS Misc. Publ. 286, Units of Weights and Measures, Price $2.25, SD Catalog No. C13.10:286.



Approximate Conversions from Metric Measures

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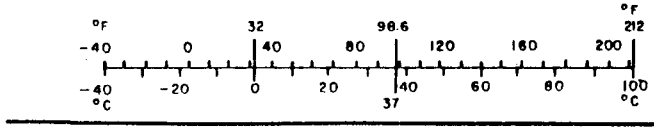
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
		AREA		
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
		MASS (weight)		
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
		VOLUME		
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
		TEMPERATURE (exact)		
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



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INCLUDING A REPORT ON THE EFFECT OF PORTABLE BREATH TESTING DEVICES ON THE DETECTION/APPREHENSION OF DRINKING DRIVERS

Analytic Study #3, 1976

Executive Summary

The Tampa Alcohol Safety Action Project (ASAP) was a community-wide traffic safety program combining countermeasure activities in law enforcement, the courts, diagnosis and referral, rehabilitation, and public information and education. The primary objective of ASAP was to reduce the incidence of drinking-driving on the highway, thus reducing alcohol related (A/R) motor vehicle accidents.

The present report was concerned with the performance of the selective enforcement units funded by the Tampa ASAP. The present report contains three sections: Section I providing a detailed description of the selective enforcement countermeasures and arrest procedures; Section II summarizing the performance and the efficiency of the selective enforcement squads with comparisons to regular patrols; and Section III presenting the results of a special pre-arrest breath test study.

Section I: The Tampa ASAP funded two selective enforcement squads totaling 21 personnel. Eleven law enforcement officers (9 patrolmen, 1 Corporal and 1 Sergeant) were funded within the Tampa Police Department (TPD) as a selective enforcement squad dedicated to the detection and the apprehension of the drinking driver. The TPD squad was operational throughout the entire ASAP period and ceased operations on December 31, 1976.

A squad of 10 men (9 troopers and 1 Sergeant) was funded within the Florida Highway Patrol (FHP). This squad was funded by ASAP through September 1974, whereupon the funding responsibility was accepted by the State of Florida and this squad became a regular part of a rotating detail within the local Highway Patrol contingent. Funding cutbacks Statewide within the Highway Patrol forced the elimination of this squad on June 30, 1976.

All vehicles were marked one-man units with the automobiles assigned to the individual officers. Such assignment was typical for the Florida Highway Patrol, but atypical for the Tampa Police Department. Both selective enforcement units varied the patrol unit time frame and duration during the project period. In general however, hours of operation were between 8 p.m. and 4 a.m. Thursday, Friday and Saturday evenings, with the FHP squad also working Wednesday and Sunday upon occasion. The TPD squad usually worked Mondays and Wednesdays in addition to their Thursday, Friday and Saturday night duty.

Arrest procedures were standard throughout the operational period, requiring probable cause for each automobile stopped when the driver was suspected of DWI. Routine driver's license checks and physical tests (balance, walking and turning, finger to nose, etc.) were performed prior to vehicle impound and offender incarceration.

Several approaches to providing blood alcohol tests for the arrested drivers were tried during the ASAP's operational period. Initially, additional man power was provided at various booking facilities. Because of conflicts in court schedules, that procedure was changed early in the life of the program and an additional individual was assigned to the TPD DWI squad to perform chemical tests only for selective enforcement personnel. This additional individual was also funded by ASAP. Finally, in February of 1975, a facility initiated and funded by the Tampa ASAP was established for the purpose of providing chemical tests for the entire law enforcement community in the county. This facility was known as Central Breath Testing (CBT), and remained active for the remainder of the operational period.

Section II: Performance and efficiency data indicated that both performance in terms of the frequency of arrests and efficiency measures increased from the day the squads were initiated until approximately 12 months prior to the end of the project. The highest annual productivity was obtained in 1975 with a total of 9,191 arrests for alcohol related offenses. The lower 1976 total (7,742) was occasioned partially by the loss of the FHP selective enforcement unit, and also by general slow-down in A/R arrests by all the law enforcement officers in the County in 1976.

Non-ASAP officers continued to increase both the frequency and the proportion of alcohol related arrests throughout the life of the project. In 1972, regular patrols made 43% of the alcohol related arrests, and in 1975 that proportion had increased to 61% where it remained in 1976.

The average blood alcohol level of the arrested driver declined steadily throughout the life of the project from a baseline average of .20 to an overall operational average of .16. Further, there was a substantially lower proportion of individuals with BAC's in excess of .20 during the operational years of the project than during the baseline year. Further, selective enforcement personnel maintained significantly lower blood alcohol levels for the drivers whom they arrested than did regular patrols (.14 v. .16).

Section III: In 1976, a study was conducted to evaluate the impact of the presence of portable breath testing devices (PABT) on the alcohol related arrest rate. A one year study compared non-ASAP officers with a PABT device available to them to non-ASAP who did not have such a device in their possession. The study indicated a significant increase in alcohol related arrests for officers with the device. Non-ASAP officers were chosen so that the arrest rate could in fact increase or decrease or remain stable. ASAP officers

were not used because of their 4 to 5 year experience arresting approximately the same number of drinking drivers week after week, and having the highest arrest rates in The Department. It should also be noted that both the officers with the device and officers without the device were randomly selected from a pool requiring a history of alcohol related arrests (at least an average of 2 per month for a minimum of 6 of the 12 months immediately preceding the study), and neither the officers with the device nor the officers who did not have the device were aware of their participation in the study. Further, the 6 months between the time of officer selection and the actual issue of the PABT's revealed non-significant differences in the alcohol related arrests rates between the two groups.

While a significant increase in the number of arrests was found for officers with the device, no significant change was found in the blood alcohol levels of drivers arrested when the two officer groups were compared. One possible explanation is that emphasis needs to be placed on detection rather than on apprehension, as it appears that officers who were able to achieve lower blood alcohol levels became more sensitive to the kinds of things automobiles do when drunk drivers are behind the wheel.

I. INTRODUCTION

The following study concerns the Tampa Alcohol Safety Action Project's (ASAP) selective enforcement (SE) countermeasures. These countermeasures consisted of two squads, one attached to the Tampa Police Department (TPD) which operated within the Tampa city limits, and the other attached to the Florida Highway Patrol (FHP) which operated in the balance of the county and on all interstate highways. Both ASAP selective enforcement units became operational in March, 1972. The primary objective of the SE countermeasures was to reduce alcohol-related (A/R) traffic accidents by identifying and apprehending intoxicated drivers, thereby physically removing these individuals from the road while deterring potential drunk drivers through fear of arrest.

Three principal topics are addressed in the present study. The remainder of Section I provides a detailed description of the SE countermeasures and arrest procedures. Section II summarizes the performance and efficiency of the SE squads through 1976 (including comparisons with regular patrols). Finally, Section III presents the results of a special pre-arrest breathalyzer test study.

A. Selective Enforcement Manpower and Personnel Assignments

The TPD-SE squad comprised a total of eleven law enforcement officers, nine patrolmen, one Corporal and one Sergeant. All costs associated with this squad were funded by the Tampa ASAP. The TPD-SE squad was operational throughout the entire ASAP period and ceased operations at the close of 1976.

The FHP-SE squad consisted of ten officers in total, nine troopers and one Sergeant. All salaries, equipment, and benefits were funded by the Tampa ASAP through September, 1974. On October 1, 1974 the funding responsibility for the SE squad was accepted by the Florida Highway Patrol and the SE squad became part of a regular rotating detail within the local Highway Patrol contingent. The FHP-SE squad ceased operations on June 30, 1976.

All officers were assigned by their respective departments to full-time DWI patrol activity. FHP-SE kept a constant work force of ten men throughout its functional period, while the work force of the TPD-SE unit was a constant eleven men. Officers remained in that assignment until such time as the officer was transferred or requested reassignment. Transfers, while they did occur, were infrequent and were generally made as a result of the manpower needs of the agency.

B. Vehicle and Type of Unit

All vehicles were marked one-man units assigned to the individual officer. These vehicles were not generally available for department fleet use except in cases of local emergency such as riot control and natural disaster. Individual officer assignment was standard procedure for FHP. Non-ASAP officers in TPD used fleet vehicles.

It is worthy to note that while ASAP squad vehicles were not usually made available to other agency personnel, the reverse was quite true. That is, if there were ASAP squad officers without vehicles, then vehicles were obtained from the fleet or from other non-ASAP personnel.

C. Patrol Unit Time Frame and Duration

Both SE units varied the patrol unit time frame and duration throughout the time period covered by this report (i.e., 3/72-12/76). In general, hours of operation were between 8:00 p.m. and 4:00 a.m. Thursday, Friday, and Saturday evenings, with the FHP squad also working Wednesday and Sunday upon occasion. The TPD squad also worked Mondays upon occasion and after court appearances on Wednesday (roughly 5:00 p.m. to Midnight on Wednesday). During an 18-week deployment and saturation period in 1975, the TPD-SE squad worked from 5:00 p.m. to 4:00 a.m., Wednesday through Sunday. The results of this special law enforcement effort were presented in the 1975 Analytic Study #3 (Reis and Blount, 1977).

D. Arrest Procedures and Breath Testing

1. Arrest Procedures

After one of the FHP-SE units identified and stopped an individual suspected of DWI (Florida law requires probable cause which is routinely demonstrated by a traffic infraction), the suspect was requested to produce his driver's license and to perform a series of physical coordination tests at the site of the apprehension. He was informed of the purpose of the tests prior to his performance. These tests consisted of:

1. Balance test
2. Walking and turning test
3. Finger-to-nose test
4. Coin identification and pick-up test

Should the offender fail to satisfactorily perform these tests, he was formally charged and arrested for the offense of DWI, his vehicle was impounded, and he was transported to the breath testing facility adjacent to the Tampa Police Department. At the Central Breath Testing Laboratory (CBT) a breath test for blood alcohol concentration (BAC) was offered and either completed, or a refusal was noted. Typically, he was informed of the Implied Consent Law at the scene as well as at the testing facility. The offender was then incarcerated at the County jail for the offense of DWI and was immediately eligible to post bond of $502 securing his release. The arresting officer witnessed the breath test and the incarceration of the offender and then returned to patrol.

The procedure described above for the FHP unit was similar to that used by the TPD unit. The most important difference in the arrest process between the two agencies concerned the use of a backup unit in the TPD procedure. Typically, when the TPD officer identified an automobile suspected of containing a driver under the influence of alcohol, and stopped that automobile, he communicated his location and the purpose of his stopping the automobile to the dispatcher and at the same time requested a backup unit. The backup officer performed the primary function

of protection for the arresting officer, and witnessed the coordination tests. Upon occasion, the coordination tests were administered twice, once for the arresting officer, and once for the backup officer, should that officer have a slow response time. Functionally, the backup officer witnessed the formal arrest, and performed the vehicle impoundment procedures. No automobiles were left unattended in Hillsborough County after an arrest. While the Florida Highway Patrol could release an automobile (with the owner's permission) to another individual, the Tampa Police Department could not. Thus all vehicles were impounded as standard procedure in a TPD arrest.

2. Breath Testing

In support of the selective enforcement countermeasures ASAP funded a technical position in which an individual officer was made responsible for administering BAC tests for the SE squads. This procedure was replaced on February 14, 1975 by the Central Breath Testing Laboratory. The ASAP-funded CBT facility was staffed by seven civilian operators and serviced all law enforcement officers in Hillsborough County.

II. SUMMARY OF LAW ENFORCEMENT ACTIVITY

A summary of A/R traffic arrest activity for all ASAP and regular patrols operating throughout Hillsborough County is presented in Table 1. There was a total of 1,157 A/R traffic arrests in 1970 (not shown in Table 1) and 1,420 in 1971. During the first year of ASAP operations in 1972, the total number of A/R traffic arrests for all agencies jumped to 6,249 (a 340% increase over 1971) and remained well above baseline through 1976. The highest level of annual productivity was attained in 1975 with a total of 9,191 arrests. The decrease to 7,742 arrests in 1976 was due to the fact that the Florida Highway Patrol ASAP unit ceased operations in July, 1976 in combination with fewer arrests in 1976 by all branches of law enforcement.

It was also encouraging to see that regular patrols have made a steadily increasing contribution to the total number of A/R traffic arrests from 43% in 1972 to 61% in 1975 and roughly maintained 1975 arrest levels in 1976 despite the fact that it was well known ASAP would be ending operations at the close of 1976. Table 1 shows that the number of ASAP patrol arrests dropped to their lowest level ever in 1976, chiefly due to the fact that the Florida Highway Patrol selective enforcement unit was operational only for the first half of 1976. Funding cutbacks for FHP required the reduction of the Hillsborough County contingent by seven men, making it impossible to continue a SE unit.

The percentage of BAC's obtained has remained relatively constant across years with ASAP patrol officers obtaining a consistantly higher percentage than regular patrol officers. There did appear to be an increasing trend in the overall proportion of implied consent refusals from 5.8% of arrestees refusing the BAC test in 1972 to 14.2% in 1976.

Tables 2 and 3 summarize A/R traffic arrest activity for the Florida Highway Patrol and the Tampa Police Department respectively. Total FHP arrests increased from a 1971 baseline of 405 to 1,744

TABLE 1

Summary of A/R Arrest Activity: 1971-1976

Total ASAP[+] vs. Regular Patrols

ASAP PATROLS

Performance Measure	1971	1972	1973	1974	1975	1976
A/R Traffic Arrests	-	3583	4256	3859	3593	2482
DWI or UBAC	-	3308	3910	3674	3545	2482
Other	-	275	346	185	48	0
Implied Consent Refusals	-	131	273	322	314	296
Patrol Man Hours	-	42,737	46,423	46,045	46,540	36,140
A/R Traffic Arrests per Patrol Man Hour	-	.084	.092	.084	.077	.069
Number BAC's Obtained	-	3391	3855	3469	3201	2139
% BAC's Obtained	-	95	91	90	89	86
Average BAC	-	16.2	15.0	16.5	17.2	16.3

REGULAR PATROLS

Performance Measure	1971[*]	1972	1973	1974	1975	1976
A/R Traffic Arrests	1420	2666	3778	3972	5598	5260
DWI or UBAC	-	2443	3569	3882	5544	5225
Other	-	223	209	90	54	35
Implied Consent Refusals	172	232	226	277	661	807
Number BAC's Obtained	1236	2112	2931	3273	4628	4264
% BAC's Obtained	87	79	78	82	83	81
Average BAC	18.9	17.5	16.8	16.3	18.5	16.8

TOTAL: ALL AGENCIES

Performance Measure	1971[*]	1972	1973	1974	1975	1976
A/R Traffic Arrests	1420	6249	8034	7831	9191	7742
DWI or UBAC	-	5751	7479	7556	9098	7707
Other	-	498	555	275	102	35
Implied Consent Refusals	172	363	499	599	975	1103
Number BAC's Obtained	1236	5503	6786	6742	7829	6403
% BAC's Obtained	87	88	84	86	85	83
Average BAC	18.9	16.7	15.8	16.4	18.0	16.6

[+]The Florida Highway Patrol ASAP unit was operative first 6 months only in 1976.

[*]Charge not recorded on BAC logs prior to 1/1/72. Implied consent refusals also not generally recorded prior to that date.

TABLE 2

Summary of A/R Arrest Activity: 1971-1976
Florida Highway Patrol

ASAP PATROLS: FLORIDA HIGHWAY PATROL[+]

Performance Measure	1971	1972	1973	1974	1975	1976
A/R Traffic Arrests	-	1193	1306	962	1030	291
DWI or UBAC	-	1071	1222	925	991	291
Other	-	122	84	37	39	0
Implied Consent Refusals	-	47	89	86	99	46
Patrol Man Hours	-	19,027	20,278	20,800	20,800	10,400
A/R Traffic Arrests per Patrol Man Hour	-	.063	.064	.046	.050	.028
Number BAC's Obtained	-	1119	1165	845	917	236
% BAC's Obtained	-	94	89	88	89	81
Average BAC	-	16.0	15.3	16.0	17.2	17.3

REGULAR PATROLS: FLORIDA HIGHWAY PATROL

Performance Measure	1971[*]	1972	1973	1974	1975	1976
A/R Traffic Arrests	405	551	718	706	808	759
DWI or UBAC	-	497	641	670	790	754
Other	-	54	77	36	18	5
Implied Consent Refusals	6	32	62	90	87	105
Number BAC's Obtained	395	408	537	551	674	622
% BAC's Obtained	98	74	75	78	83	82
Average BAC	19.3	18.1	18.2	17.0	18.8	18.0

TOTAL: FLORIDA HIGHWAY PATROL

Performance Measure	1971[*]	1972	1973	1974	1975	1976
A/R Traffic Arrests	405	1744	2024	1668	1838	1060
DWI or UBAC	-	1568	1863	1595	1781	1055
Other	-	176	161	73	57	5
Implied Consent Refusals	6	79	151	176	186	151
Number BAC's Obtained	395	1527	1702	1396	1591	858
% BAC's Obtained	98	88	84	84	87	81
Average BAC	19.3	16.6	16.2	16.4	17.9	17.8

[+]Squad active first 6 months only in 1976.

[*]Charge not recorded on BAC logs prior to 1/1/72. Implied consent refusals also not generally recorded prior to that date.

TABLE 3

Summary of A/R Arrest Activity: 1971-1976
Tampa Police Department

ASAP PATROLS: TAMPA POLICE DEPARTMENT

Performance Measure	1971	1972	1973	1974	1975	1976
A/R Traffic Arrests	-	2390	2950	2897	2563	2191
DWI or UBAC	-	2237	2688	2749	2554	2191
Other	-	153	262	148	9	0
Implied Consent Refusals	-	84	184	236	215	250
Patrol Man Hours		23,710	26,145	25,245	25,740	25,740
A/R Traffic Arrests per Patrol Man Hour	-	.101	.113	.115	.100	.085
Number BAC's Obtained	-	2272	2690	2624	2284	1903
% BAC's Obtained	-	95	91	91	89	87
Average BAC	-	16.4	14.9	16.7	17.2	16.2

REGULAR PATROLS: TAMPA POLICE DEPARTMENT

Performance Measure	1971*	1972	1973	1974	1975	1976
A/R Traffic Arrests	716	1522	2239	2662	3675	3402
DWI or UBAC	-	1490	2204	2632	3660	3383
Other	-	32	35	30	15	19
Implied Consent Refusals	145	188	121	156	414	533
Number BAC's Obtained	566	1139	1631	2160	3012	2719
% BAC's Obtained	79	75	73	81	82	80
Average BAC	18.6	17.2	16.5	16.2	18.4	16.6

TOTAL: TAMPA POLICE DEPARTMENT

Performance Measure	1971*	1972	1973	1974	1975	1976
A/R Traffic Arrests	716	3912	5189	5559	6238	5593
DWI or UBAC	-	3727	4892	5381	6214	5574
Other	-	185	297	178	24	19
Implied Consent Refusals	145	272	305	392	629	783
Number BAC's Obtained	566	3411	4321	4784	5296	4622
% BAC's Obtained	79	87	83	86	85	83
Average BAC	18.6	16.7	15.5	16.5	17.9	16.4

*Charge not recorded on BAC logs prior to 1/1/72. Implied consent refusals also not generally recorded prior to that date.

during the first operational year and stayed roughly at this level through 1975, then dropping to 1,060 during 1976. It should be kept in mind that all 1976 data which includes totals from the FHP ASAP squad are not meaningfully comparable to prior years since this squad made no A/R arrests after June 30, 1976. The A/R traffic arrests for FHP ASAP patrols of 291 in 1976 compared to 1,030 in 1975 reflects this fact. Although FHP regular patrols did show a slight decline in arrests in 1976 to 759 from 808 in 1975, productivity was still above that in any other preceding year.

The Tampa Police Department ASAP patrol did remain operational through the end of 1976 but show their lowest productivity during the course of ASAP operations in 1976 when A/R arrests dropped to 2,191. The TPD regular patrols A/R arrest level declined slightly to 3,402 in 1976 from 3,675 in 1975, but this was still well above the arrest levels in any other preceding year.

Inspection of Tables 2 and 3 also indicated that across operational years there has been no practical difference in the percentage of BAC's obtained for total FHP and total TPD arrests.

Annual arrest BAC distributions for total ASAP and regular patrols are presented in Table 4. There was an obvious shift toward lower BAC levels from 1971 to 1972 resulting primarily from ASAP selective enforcement. For all agency arrests, the proportion of BAC's below .20 was 52.8% in 1971 versus 68.3% in 1972. The 1976 BAC distribution for all agencies showed that 11.1% of the arrests (with BAC data available) were below .10, 24.2% were between .10 and .14, 33% were between .15 and .19 and 31.7% were .20 or higher. The BAC distributions for total ASAP and regular patrols showed little variation over the operational years with one exception: there was a substantially greater proportion of arrests with BAC's of .25 or more in 1975 than in other operational years. This deviation was largely an artifact resulting from the temporary use of Mark II intoximeters during 1975. When it was determined that the intoximeters were giving unreliable and spuriously high readings they were immediately replaced with the Stephenson breathalyzers.

TABLE 4

Summary of A/R Arrest BAC Distributions: 1971-1976
Total ASAP vs. Regular Patrols

ASAP Patrols

	1971		1972		1973		1974		1975		1976	
BAC Level	#	%	#	%	#	%	#	%	#	%	#	%
Negative	-	-	20	0.6	69	1.8	27	0.8	46	1.4	11	0.5
.01 to .04	-	-	15	0.4	36	0.9	21	0.6	43	1.3	10	0.5
.05 to .09	-	-	313	9.2	467	12.1	278	8.0	277	8.7	176	8.2
.10 to .14	-	-	957	28.2	1219	31.6	947	27.3	695	21.7	641	30.0
.15 to .19	-	-	1150	33.9	1256	32.6	1163	33.5	1014	31.7	746	34.9
.20 to .24	-	-	682	20.1	605	15.7	730	21.0	704	22.0	379	17.7
.25 +	-	-	254	7.5	203	5.3	303	8.7	422	13.2	176	8.2

Regular Patrols

	1971		1972		1973		1974		1975		1976	
BAC Level	#	%	#	%	#	%	#	%	#	%	#	%
Negative	20	1.6	55	2.6	109	3.7	114	3.5	154	3.3	128	3.0
.01 to .04	8	0.6	27	1.3	75	2.6	73	2.2	67	1.4	79	1.9
.05 to .09	37	3.0	101	4.8	239	8.2	258	7.9	278	6.0	309	7.2
.10 to .14	198	16.0	396	18.8	585	20.0	763	23.3	746	16.1	908	21.3
.15 to .19	391	31.6	723	34.2	841	28.7	1039	31.7	1300	28.1	1364	32.0
.20 to .24	370	29.9	554	26.2	703	24.0	684	20.9	1159	25.0	995	23.3
.25 +	212	17.2	256	12.1	379	12.9	342	10.4	924	20.0	481	11.3

Total: All Agencies

	1971		1972		1973		1974		1975		1976	
BAC Level	#	%	#	%	#	%	#	%	#	%	#	%
Negative	20	1.6	75	1.4	178	2.6	141	2.1	200	2.6	139	2.2
.01 to .04	8	0.6	42	0.8	111	1.6	94	1.4	110	1.4	89	1.4
.05 to .09	37	3.0	414	7.5	706	10.4	536	8.0	555	7.1	485	7.6
.10 to .14	198	16.0	1353	24.6	1804	26.6	1710	25.4	1441	18.4	1549	24.2
.15 to .19	391	31.6	1873	34.0	2097	30.9	2202	32.7	2314	29.6	2110	33.0
.20 to .24	370	29.9	1236	22.5	1308	19.3	1414	21.0	1863	23.8	1374	21.5
.25 +	212	17.2	510	9.3	582	8.6	645	9.6	1346	17.2	657	10.3

Tables 5 and 6 summarize the annual arrest BAC distributions for FHP and TPD respectively. Inspection of Table 5 indicated BAC levels for the FHP did not drop to pre-1975 levels in 1976 although there was a decline from the spuriously high readings noted in 1975. This pattern was similar for both the regular and ASAP patrols althouth it must be kept in mind the ASAP patrols were operational only for the first 6 months of 1976. Inspection of Table 6 indicated that arrest BAC levels for the TPD returned to pre-1975 levels in 1976. A χ^2 analysis of 1976 BAC distributions for TPD vs. FHP confirmed this observation as the TPD had significantly greater proportions of arrests at lower BAC levels ($\chi^2 = 36.466$, $df = 6$, $p < .05$). Analysis of the 1976 BAC distributions for FHP indicated no difference between ASAP and regular patrols ($\chi^2 = 10.681$, $df = 6$, ns), but analysis of 1976 BAC distributions for TPD revealed significantly greater proportions of arrests at lower BAC levels for the ASAP patrols ($\chi^2 = 123.665$, $df = 6$, $p < .01$). Lower arrest BAC's for the ASAP patrols were the expected result of an intense selective enforcement effort. The non-significant difference for FHP was almost certainly due to the early discontinuance of FHP ASAP operations.

Performance and efficiency measures for the FHP selective enforcement squad are summarized in Table 7. There was a total of 1,881 total citations issued by the FHP-SE squad in the first six months of 1976, of which 291 (15.5%) were for alcohol-related traffic offenses. The 1976 performance measures (all figured on a six month basis for FHP) indicated substantial decreases in average citations per man per month compared to all previous years. However, the average number of miles traveled and street hours per man per month were not substantially different from preceding years. The indicies in Table 7 also indicated a large general decrease in the efficiency of selective enforcement performance for the FHP squad. Miles per A/R citations showed a 53% increase and street hours per A/R citations were up by 72% in 1976 as compared to 1975. There was also evidence of an increasing tendency toward more non A/R arrests relative to A/R arrests. In 1976 there were 6.5 total citations per A/R citation compared to 6.0, 5.3, and 3.7 total citations per A/R citation in 1975, 1974, and 1973 respectively.

TABLE 5

Summary of A/R Arrest BAC Distributions: 1971-1976
Florida Highway Patrol

ASAP Patrols: Florida Highway Patrol +

	1971		1972		1973		1974		1975		1976	
BAC Level	#	%	#	%	#	%	#	%	#	%	#	%
Negative	-	-	5	0.4	10	0.9	10	1.2	17	1.9	3	1.3
.01 to .04	-	-	7	0.6	21	1.8	11	1.3	10	1.1	0	0.0
.05 to .09	-	-	119	10.6	121	10.4	53	6.3	84	9.2	11	4.7
.10 to .14	-	-	314	28.1	368	31.6	266	31.5	183	20.0	59	25.0
.15 to .19	-	-	377	33.7	386	33.1	285	33.7	296	32.3	93	39.4
.20 to .24	-	-	220	19.7	197	16.9	168	19.9	215	23.5	46	19.5
.25 +	-	-	77	6.9	62	5.3	52	6.2	112	12.2	24	10.2

Regular Patrols: Florida Highway Patrol

	1971		1972		1973		1974		1975		1976	
BAC Level	#	%	#	%	#	%	#	%	#	%	#	%
Negative	2	0.5	9	2.2	11	2.0	18	3.3	11	1.6	12	1.9
.01 to .04	1	0.3	5	1.2	7	1.3	10	1.8	4	0.6	4	0.6
.05 to .09	13	3.3	15	3.7	34	6.3	30	5.4	39	5.8	29	4.7
.10 to .14	59	14.9	72	17.6	95	17.7	129	23.4	118	17.5	120	19.3
.15 to .19	121	30.6	132	32.4	163	30.4	178	32.3	205	30.4	211	33.9
.20 to .24	130	32.9	122	29.9	140	26.1	119	21.6	166	24.6	157	25.2
.25 +	69	17.5	53	13.0	87	16.2	67	12.2	131	19.4	89	14.3

Total: Florida Highway Patrol

	1971		1972		1973		1974		1975		1976	
BAC Level	#	%	#	%	#	%	#	%	#	%	#	%
Negative	2	0.5	14	0.9	21	1.2	28	2.0	28	1.8	15	1.7
.01 to .04	1	0.3	12	0.8	28	1.6	21	1.5	14	0.9	4	0.5
.05 to .09	13	3.3	134	8.8	155	9.1	83	5.9	123	7.7	40	4.7
.10 to .14	59	14.9	386	25.3	463	27.2	395	28.3	301	18.9	179	20.9
.15 to .19	121	30.6	509	33.3	549	32.3	463	33.2	501	31.5	304	35.4
.20 to .24	130	32.9	342	22.4	337	19.8	287	20.6	381	23.9	203	23.7
.25 +	69	17.5	130	8.5	149	8.8	119	8.5	243	15.3	113	13.2

+Squad active first 6 months only in 1976.

TABLE 6

Summary of A/R Arrest BAC Distributions: 1971-1976
Tampa Police Department

ASAP Patrols: Tampa Police Department

	1971		1972		1973		1974		1975		1976	
BAC Level	#	%	#	%	#	%	#	%	#	%	#	%
Negative	-	-	15	0.7	59	2.2	17	0.6	29	1.3	8	0.4
.01 to .04	-	-	8	0.4	15	0.6	10	0.4	33	1.4	10	0.5
.05 to .09	-	-	194	8.5	346	12.9	225	8.6	193	8.5	165	8.7
.10 to .14	-	-	643	28.3	851	31.6	681	26.0	512	22.4	582	30.6
.15 to .19	-	-	773	34.0	870	32.3	878	33.5	718	31.4	653	34.3
.20 to .24	-	-	462	20.3	408	15.2	562	21.4	489	21.4	333	17.5
.25 +	-	-	177	7.8	141	5.2	251	9.6	310	13.6	152	8.0

Regular Patrols: Tampa Police Department

	1971		1972		1973		1974		1975		1976	
BAC Level	#	%	#	%	#	%	#	%	#	%	#	%
Negative	18	3.2	45	4.0	76	4.7	86	4.0	107	3.6	89	3.3
.01 to .04	6	1.1	17	1.5	45	2.8	47	2.2	54	1.8	55	2.0
.05 to .09	15	2.7	56	4.9	145	8.9	182	8.4	203	6.7	219	8.1
.10 to .14	86	15.2	220	19.3	329	20.2	496	23.0	477	15.8	585	21.5
.15 to .19	187	33.0	368	32.3	456	28.0	679	31.4	815	27.1	869	32.0
.20 to .24	160	28.3	287	25.2	371	22.7	448	20.7	739	24.5	589	21.7
.25 +	94	16.6	146	12.8	209	12.8	222	10.3	617	20.5	313	11.5

Total: Tampa Police Department

	1971		1972		1973		1974		1975		1976	
BAC Level	#	%	#	%	#	%	#	%	#	%	#	%
Negative	18	3.2	60	1.8	135	3.1	103	2.2	136	2.6	97	2.1
.01 to .04	6	1.1	25	0.7	60	1.4	57	1.2	87	1.6	65	1.4
.05 to .09	15	2.7	250	7.3	491	11.4	407	8.5	396	7.5	384	8.3
.10 to .14	86	15.2	863	25.3	1180	27.3	1177	24.6	989	18.7	1167	25.2
.15 to .19	187	33.0	1141	33.5	1326	30.7	1557	32.5	1533	28.9	1522	32.9
.20 to .24	160	28.3	749	22.0	779	18.0	1010	21.1	1228	23.2	922	19.9
.25 +	94	16.6	323	9.5	350	8.1	473	9.9	927	17.5	465	10.1

TABLE 7

FHP-SE 1976 *

Summary of Performance and Efficiency Measures, 1976

PART A: Performance	QTR 1	QTR 2	QTR 3	QTR 4	1976 Total	1976 Avg/Mo. Per Man	1975 Avg/Mo. Per Man	1974 Avg/Mo. Per Man	1973 Avg/Mo. Per Man	1972 Avg/Mo. Per Man
1. Total Citations	885	996	0	0	1881	31.4	51.6	42.1	40.6	45.3
2. Alcohol-Related (A/R) Citations	132	159	0	0	291	4.9	8.6	8.0	10.9	10.8
3. Miles Traveled	71876	67194	0	0	139,070	2318	2683	1834	2247	2170
4. Street Hours	4436	4504	0	0	8940	149	153	127	136.6	123.7
5. Cost (total) [a]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

PART B: Efficiency	1976 Total	1975 Total	1974 Total	1973 Total	1972 Total
1. Miles/Citation	73.9	52.1	43.6	55.3	47.8
2. Miles/A/R Citation	478.0	312.6	228.8	206.5	200.0
3. Street Hours/Citation	4.8	3.0	3.0	3.4	2.7
4. Street Hours/A/R Citation	30.7	17.8	15.9	12.6	11.4
5. Cost/Citation	N/A	N/A	$ 28.84 [b]	$ 20.62	$ 27.50
6. Cost/A/R Citation	N/A	N/A	$151.15 [b]	$ 79.93	$ 115.08
7. Citation/A/R Citation	6.5	6.0	5.3	3.7	4.2

*Squad active first 6 months only in 1976.

[a]Direct costs to ASAP stopped as of 10/1/74.

[b]Projected to 12 months.

Table 8 presents the performance and efficiency measures for the TPD-SE squad. There were 4,841 total citations in 1976 of which 2,191 (45.3%) were alcohol related. The average number of total citations per man per month was 36.7 in 1976, up slightly from 1975, while the average number of A/R citations per man per month was 16.6, down from 19.4 in 1975. Average number of miles traveled and street hours per man per month were down to 1,455 and 155 in 1976 compared to 1,559 and 163 in 1975. The 1976 efficiency indicies presented in Table 8 indicated an increase in efficiency in terms of miles per citation and street hours per citation compared to 1975 but a decline in efficiency in terms of miles per A/R citation and street hours per A/R citation. This of course reflected the tendency toward more non A/R arrests relative to A/R arrests in 1976. There were 2.2 total arrests per A/R citation in 1976 compared to 1.8 arrests per A/R arrest in 1975. Surprisingly, costs per citation were lower in 1976 than in any other year of ASAP operations except 1973. In general, it was encouraging to note there were no drastic changes in the performance and efficiency of the TPD-SE squad in 1976 despite the closedown of ASAP operations at the end of 1976, although some decline in A/R arrest activity and efficiency was evident.

TABLE 8

TPD-SE 1976

Summary of Performance and Efficiency Measures, 1976

PART A: Performance	QTR 1	QTR 2	QTR 3	QTR 4	1976 Total	1976 Avg/Mo. Per Man	1975 Avg/Mo. Per Man	1974 Avg/Mo. Per Man	1973 Avg/Mo. Per Man	1972 Avg/Mo. Per Man
1. Total Citations	1151	1461	1180	1049	4841	36.7	35.1	52.7	52.5	40.6
2. Alcohol-Related (A/R) Citations	532	717	510	432	2191	16.6	19.4	21.9	22.3	19.8
3. Miles Traveled	49717	50219	44946	47163	192,045	1455	1559	1557	1632	1481
4. Street Hours	5146	5683	4959	4669	20457	155	163	150	140	122.5
5. Cost (total)	N/A	N/A	N/A	N/A	112,612	N/A	N/A	N/A	N/A	N/A

PART B: Efficiency	1976 Total	1975 Total	1974 Total	1973 Total	1972 Total
1. Miles/Citation	39.7	44.4	29.1	31.1	36.5
2. Miles/A/R Citation	87.7	80.3	70.9	73.0	75.0
3. Street Hours/Citation	4.2	4.6	2.9	2.7	3.0
4. Street Hours/A/R Citation	9.3	8.4	6.8	6.3	6.2
5. Cost/Citation	$ 23.26	$ 38.41	$ 26.34	$ 19.27	$ 33.38
6. Cost/A/R Citation	$ 51.40	$ 69.52	$ 63.26	$ 45.10	$ 68.65
7. Citation/A/R Citation	2.2	1.8	2.4	2.4	2.1

III. STUDY OF THE IMPACT OF PABT DEVICES ON ARREST LEVEL AND DRIVER BAC

The final section of this report deals with a study aimed at evaluating the impact of the presence of a pre-arrest breath test screening device (PABT) for alcohol intoxication on arrest rate and arrested driver blood alcohol level. The technology available for portable pre-arrest screening devices increased dramatically during the five operational years of the Tampa ASAP, and economical versions of several such devices became available on the open market. Law enforcement in general seemed receptive to the idea of pre-arrest breath test screening devices for the protection of the motorist as well as for gathering additional presumptive information associated with the DWI arrest. Thus, the opportunity arose to evaluate the impact of such devices upon individual patrolmen.

Prior to the initiation of the present study, a study was conducted to ascertain which of the available pre-screening devices seemed to be preferred by law enforcement in the County. The results of that study indicated that the Alco-Sensor was the preferred unit by the majority of law enforcement personnel in the County regardless of agency affiliation. Thus, it was the Alco-Sensor which was used in the present effort.

A. Selection of Subjects

The selection of officers to receive portable breath test units was a critical item, as several pre-conditions had to be met. First, the study was to take place over the course of 12 months, and we had to be reasonably sure that the individual officers selected would maintain the same duty assignments throughout that period of time. Second, the duty assignment itself had to be one of routine patrol, where traffic law enforcement was a significant priority. Thus, detectives and administrative personnel were excluded. Third, the general arrest level was of critical concern, as was the alcohol-related arrest level for those officers selected for participation. Because the study was an initial effort, it was decided to exclude any officer who had not made a fairly consistent number of alcohol-

related arrests during the year previous to the initiation of the study. Therefore, all officers eventually selected for the pool had a minimum average alcohol-related arrest rate of at least two per month for a minimum of 6 of the previous 12 months. Because of these restrictions, and the elimination of selective enforcement personnel because of their exceptionally high A/R arrest rate, only 25 officers (of a street strength of some 300) within the Tampa Police Department met the criteria. Thirteen (13) of these officers were randomly selected to receive PABT devices. These 13 officers became the experimental group.

The 25 officers selected for the pool came from 18 of the 38 11-man squads maintained by the TPD, and thus were naturally distributed throughout the Department. Only 4 squads contained more than one subject officer: three squads had 2 (2 squads with 2 controls and one squad with 2 experimental officers), and one squad had four (2 control and 2 experimental officers).

Both the experimental group and the control group contained one supervisor. These two individuals were randomly assigned separately from the remaining 23 officers.

In agreeing to cooperate with the study, the Tampa Police Department approved our request to notify them only of the officers to receive the equipment. Thus, officers involved in the control condition were unaware of their participation in the study. In addition, because of a ploy described below in the Procedure Section, awareness on the part of officers involved in the experimental group was also minimized.

B. Procedure

In an attempt to eliminate halo effects, twice as many devices were made available to Tampa Police Department personnel as necessary to complete the study, including several devices produced by another manufacturer. Thus, some 40 units were made available for general distribution. Officers were initially assigned to all units, masking the assignments of the 13 officers in the experimental group. Throughout the next six months, equipment was rotated between officers on a demand basis, with the only restriction that the 13 officers in

question maintain the availability of an Alco-Sensor. With the general availability of a large number of other units, all officer requests were handled, and there is no reason to believe that the 13 officers who were tracked as part of the experimental group had any knowledge whatsoever of their participation in the study.

All portable breath test units were issued through the Central Breath Testing facility, and were calibrated by that facility on a demand basis, but always at least once a month. In addition, any time a unit was turned in to that facility it was calibrated before it was issued either back to the same officer or to a different officer.

The basic 2 x 2 experimental design included a pre-post dimension and an experimental control dimension. The pre-dimension consisted of the first six months of 1976 when both the experimental and control groups were merely being monitored for arrest levels. On June 1, 1976, the 13 officers previously selected as experimentals were provided with the portable breath test equipment and the other equipment was made generally available to the Department. Thus, the post-period covered the second six months of 1976. Individuals in the control condition did not have access to a portable screening device during the six months of the post condition. In the two instances where officers requested access to such a device, reasons were found to delay granting that request until the end of the post period.

C. Statistical Procedure

Separate analyses for arrest data and BAC data were conducted, although both followed the same general format. Each analysis actually consisted of two separate statistical procedures. First, a 2 x 2 repeated measures analysis of variance (ANOVA) was conducted to examine the hypothesized interaction between the groups. The experimental hypothesis was that the experimental officers would increase their arrest levels after receiving the Alco-Sensors while control officer arrest levels would remain unchanged. Second, an analysis of covariance (ANCOVA) on post-scores (using pre-scores as the covariate) was carried out to make a direct comparison between the experimental and control groups.

A least squares solution numerically equal to the least squares solution for unequal "n" described by Winer (1971, p. 599-603) was used for the repeated measures ANOVA's. A least squares multiple regression step down solution was used to carry out the ANCOVA's. Prior to carrying out the actual ANCOVA's, a test for homogeneity of within group slopes was conducted.

The analysis of covariance used in this way, is essentially an analysis of variance testing the difference between the adjusted group means on the dependent variable where the adjustment is based on the results of a regression analysis between the covariate (pre scores) and the dependent variable (post scores). The adjusted group means can be found from the relationship

$$\bar{Y}'_j = \bar{Y}_j - b\ (\bar{X}_j - \bar{X})$$

where $\bar{Y}_j$ are the unadjusted group means on the dependent variable;

$\bar{X}_j$ are the group means on the covariate;

$\bar{X}$ is the mean of all covariate scores; and

b is the pooled regression coefficient from the regression analysis.

From this relationship it can be seen that the advantage of analysis of covariance over an analysis of variance disregarding the covariate depends on the magnitude of "b" or the degree of relationship between the covariate and the dependent variable. The stronger this relationship is, the greater the sensitivity in testing group means (or differential effects of treatments) will be.

Implicit also in the relationship described above is that the regression coefficients for each group are homogeneous or,

$$b_1 = b_2 = \ldots b_j = b.$$

A test comparing the variation of individual observations about the unpooled regression lines with the variation of individual within-group regression coefficients about the pooled within-group regression coefficient is usually carried out prior to the actual analysis

of covariance. If the former variation is labeled S_1 and the latter S_2 this test is given by

$$F = \frac{S_2/\ (j-1)}{S_1/\ (N-2j)} \quad ,$$

which is the preliminary test for homogeneity of slope.

A more rigorous treatment of this subject may be found in any standard textbook on experimental design. See for example Winer (1971, p. 752-781).

D. Results

1. Number of Arrests

Table 9 provides the summary table of the analysis of variance for number of arrests. As anticipated, the interaction was significant (see Figure 1) indicating that the number of arrests was differentially affected by the pre-post conditions (average number of arrests with the PABT device = 14.23; average number of arrests without the device = 9.83).

Table 10 presents the results of the analysis of covariance for number of arrests. Since the test for homogeneity of slopes was not significant, the ANCOVA was completed. Table 10 indicates that the adjusted means were in the predicted direction; that is, officers with the PABT device made significantly more arrests than did officers without the device in the post period. Table 9 provides the uncorrected means, and indicates an increase of some 61% in alcohol-related arrests for the officers who had the PABT device in their possession.

While there was no direct attempt to determine if the officers with the PABT devices actually used those devices, it would appear that they did. In any event, issuing a preferred PABT device can be expected to significantly increase alcohol-related arrest activity.

2. Mean Blood Alcohol Level

Table 11 provides the summary of the 2 x 2 analysis of variance for the blood alcohol concentration (BAC) data. It should be noted that the analysis was done on the available BAC

TABLE 9

Summary of the Analysis of Variance
For Number of Arrests

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Between				
Exp-Control (E-C)	20.72	1	20.72	0.19
Subjects Within Groups	2524.96	23	109.78	
Within				
PABT Device (D)	72.00	1	72.00	3.95
E-C x D	120.63	1	120.63	6.62 *
D x Subjects Within Groups	419.37	23	18.23	
Total	3157.68	49		

MEANS:

Officers	pre	post
With PABT	8.85	14.23
Without PABT	10.67	9.83

*$p < .025$

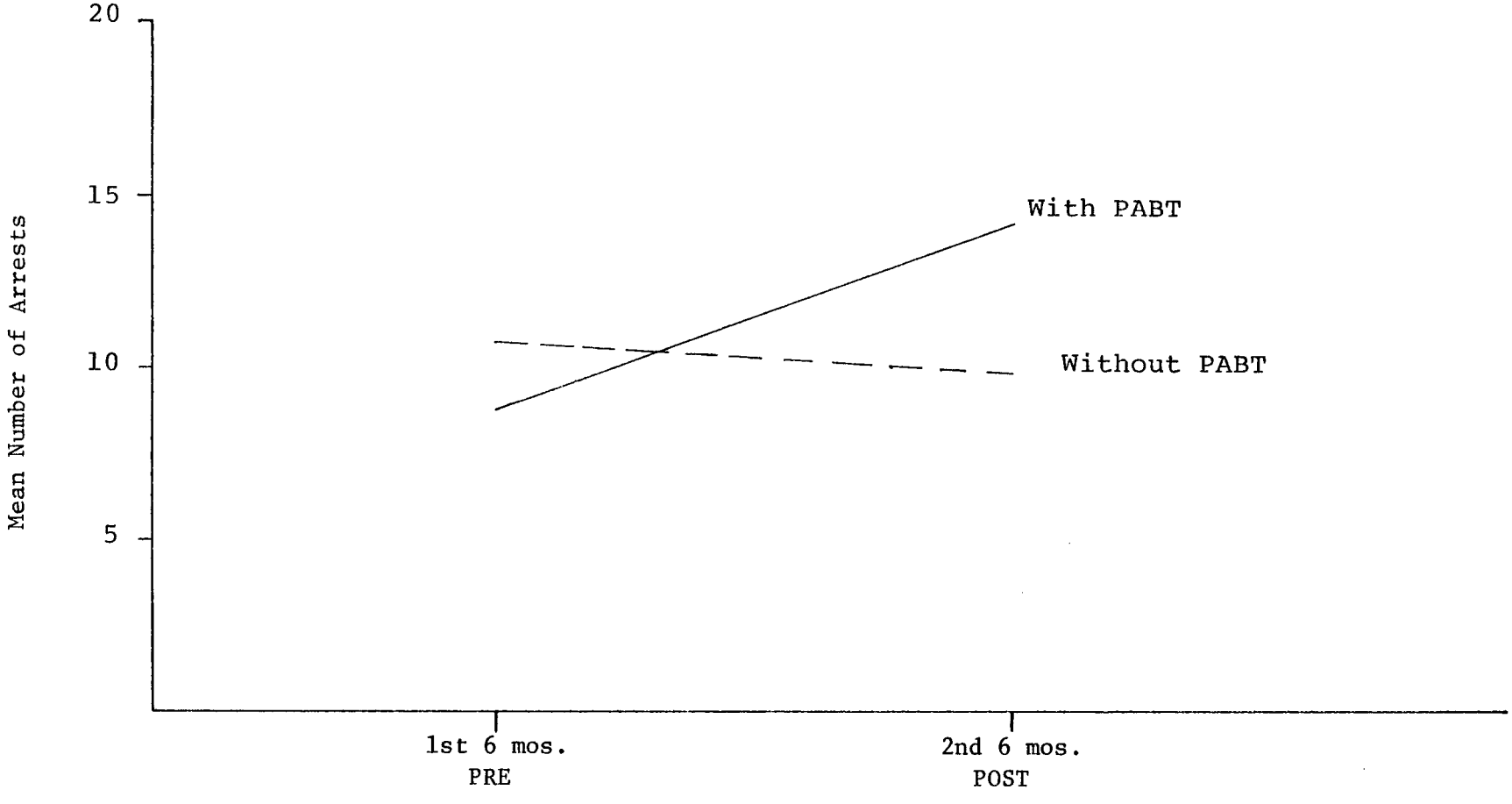

FIGURE 1

Mean Arrests by Pre-Post Condition

TABLE 10

Summary of Covariance Analyses
For Number of Arrests

Test for Homogeneity of Slope:

F = 1.229 df = 1, 21 p = ns

Analysis of Covariance:

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Covariate	751.050	1	751.050	21.042**
Groups	210.339	1	210.339	5.893*
Error	785.249	22	35.693	
Total	1746.638	24		

Adjusted Means:

Post with PABT	14.93
Post without PABT	9.08

*p < .025

**p < .001

TABLE 11

Summary of the Analysis of Variance
for Mean BAC

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Squares	F
Between				
Exp Control (E-C)	6.77	1	6.77	0.54
Subjects Within Groups	252.82	20	12.64	
Within				
PABT Device (D)	0.00	1	0.00	0.00
E-C x D	1.06	1	1.06	0.21
D x Subjects Within Groups	100.27	20	5.01	
Total	360.92	43		

MEANS:

Officers	pre	post
With PABT	.1620	.1648
Without PABT	.1572	.1538

data for each officer. Further, the average BAC for each officer was used as the raw data. Officers were eliminated from this analysis if refusals and otherwise unavailable BAC data resulted in missing observations. One experimental subject and two controls were lost in this fashion.

The analysis indicated no significant change in the average BAC of drivers arrested between the pre and post conditions or between officers with the PABT and officers without the PABT (average BAC of drivers arrested by officers with the device during the post condition = .1648; average BAC of drivers arrested by officers without the device during the post period = .1538).

Since the interaction was not significant, no tests of simple effects were made. However, in looking over the raw data, it was noticed that while all but three of the officers with the devices increased their arrests during the post period, four of those officers had increased their arrest rate substantially (by 10 or more). Since an increase in arrests has been associated with a decrease in the average BAC of the arrested drivers (Blount, 1972; 1973; Blount and Voissem, 1974; Reis and Blount, 1975; and earlier in the present report), these four officers were compared to the entire group of control officers on the variable of average BAC of arrested drivers. Table 12 indicates that this analysis was also not significant using the covariance technique described earlier (adjusted means = .1483 and .1568 respectively for experimental and control officers).

E. Discussion and Conclusions

The results of the present study indicate quite clearly that a portable pre-arrest breath test screening device can be expected to increase the frequency of alcohol-related arrests, at least in those circumstances where the officers having the devices have been thoroughly trained in their use, are familiar with the devices, find them acceptable tools, have traffic patrol and the arrest of traffic offenders as part of their routine duties, and have arrested drunk drivers in the past.

TABLE 12

Summary of Covariance Analyses for Mean BAC:
Four High Producers vs. All Controls

Test for Homogeneity of Slope:

F = 1.876 df = 1, 10 p = ns

Analysis of Covariance:

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F
Covariate	32.981	1	32.981	10.158 *
Groups	1.879	1	1.879	.579
Error	35.714	11	3.247	
Total	70.574	13		

Adjusted Means:

Post with PABT	.1483
Post without PABT	.1568

*p < .01

The failure to find a significantly lower blood alcohol level among the drivers arrested by officers with the PABT device appears to indicate that greater emphasis needs to be placed on detection of drinking drivers if indeed a lower blood alcohol level is to be achieved. While lower blood alcohol levels of arrested drivers seemed to accompany large increases in the frequency of alcohol-related arrests in the ASAP, it should also be noted that members of the DWI squads consistently had significantly lower blood alcohol levels for drivers they arrested than was the case with drivers arrested by non-ASAP patrol officers. This would seem to indicate that the training and the experience of constantly arresting drunk drivers made the special squads a good deal better at the initial detection of a drinking driver than was the case with the regular patrols. In the present study, both the experimental and control officers were non-ASAP officers, being selected from individuals who were on routine patrol with the Department. It is suggested that lower blood alcohol levels of arrested drivers occur through experience in apprehending those drivers, rather than by simply increasing the frequency of arrests in this category.

IV. REFERENCES

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Responses to Question #5

FINDING WAY ABOUT BASE (30 responses)

Finding my way about base.

Finding my way around.

Getting acquainted with the Base. I got lost several times and a good map would be helpful.

I didn't know where anything was and my sponsor never even showed up to show me around. I had to find everything on my own.

Locating my squadron and a place to stay for the night.

Finding my way around base without a map.

Finding various buildings on base.

The way the roads are set up.

Trying to find a certain building and then trying to get there on one-way streets.

Finding the locations of different buildings.

Driving and finding my way to different places.

How to get to my squadron.

Arrived on a holiday weekend, didn't know anyone and had no way to get around for awhile.

Directions which instructed me to sign in and where to go.

Finding way around base.

Finding the buildings and getting the rooms.

My way around.

Finding my way about base.

Learning where everything was.

Finding where to report.

Not knowing where anything was and who to see and where.

Finding places on base.

Being lost, not knowing where anything was.

Learning my way around because of the way the Base is splattered with one-way streets.

Trying to find my way around. It's a much bigger base than my last one.

No big problems - except having trouble finding places.

Finding my way around, streets and building numbers are terrible.