

ANALYSIS OF WASHTENAW COUNTY ALCOHOL SAFETY ACTION
PROGRAM POLICE COUNTERMEASURE ACTIVITY

Cheryl D. Clark

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FINAL REPORT

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Highway Safety Research Institute
The University of Michigan
Huron Parkway & Baxter Rd.
Ann Arbor, Michigan 48105

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16. Abstract <p>Three Washtenaw County police departments created special alcohol patrols to assist in the identification & apprehension of drunk drivers. This activity was one countermeasure of the Washtenaw County Alcohol Safety Action Program. Discussed in the report are Michigan and Washtenaw County police arrest patterns as well as the activities of the special alcohol patrols.</p> <p>During 1971 and 1972, arrests in Washtenaw County increased 75% over the previous two years, with both the special alcohol patrols and the regular police patrols contributing to the successful achievement of the countermeasure objective. However, during the first five months of 1973, the frequency of arrests declined to a level similar to the comparable time period in 1971. This decline was atypical of the experience of the remainder of the state.</p> <p>While the large increase in 1971 arrests appears to be ASAP-related, much of the increase in subsequent years was a result of a 208% increase in the number of persons arrested between the ages of 16-20 years. This change in arrest patterns coincided with a reduction in Michigan's legal drinking age. The proportion of young arrestees to the total made no further change in the first half of 1973 relative to the 1972 experience.</p> <p>While the number of arrestees aged 21 years and older increased slightly in 1972, both proportional and absolute decreases in the number arrested with blood alcohol concentrations of 0.20 and higher occurred. This decrease in the number of heavy drinkers is in accord with program goals.</p>			
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PREFACE

The Highway Safety Research Institute has undertaken a number of activities pertaining to its evaluation of the Washtenaw County Alcohol Safety Action Program, including roadside surveys, surveys of the general public and selected target groups, and collection and analysis of crash, arrest, and recidivism data.

These activities and their findings are described in separately bound reports consistent with the reporting structure of the sponsoring agencies. This structure enables the reader interested in a single topic to access the relevant report conveniently. However, the individual reports in this series largely do not contain comparative data derived from separate evaluative activities. Such comparisons, when appropriate, will be found in the summary report cited below.

Reports in this series which are completed, in process, or planned for the Fall 1973 are listed below.

1. Washtenaw County 1971, 1972 and 1973 BAC Roadside Survey, UM-HSRI-AL-73-6.
2. 1971 and 1973 ASAP Surveys: Washtenaw and Jackson County Voluntary Organizations, UM-HSRI-AL-73-7.
3. 1971 and 1973 ASAP Surveys: Washtenaw County Physicians, UM-HSRI-AL-73-8.
4. 1971 and 1973 ASAP Surveys: Washtenaw County General Public, UM-HSRI-AL-73-9.
5. 1971 and 1973 ASAP Surveys: Washtenaw County Attorneys, UM-HSRI-AL-73-10.
6. 1971 and 1973 ASAP Surveys: Washtenaw County Law Enforcement Agencies, UM-HSRI-AL-73-11.
7. 1971 and 1973 ASAP Surveys: Washtenaw County High School Students, UM-HSRI-AL-73-12.
8. Analysis of Washtenaw County Alcohol Safety Action Program Police Countermeasure Activity, UM-HSRI-AL-73-13.
9. Analysis of Washtenaw County Alcohol Safety Action Program Judicial, Referral and Diagnostic Activity, UM-HSRI-AL-73-14.

10. Analysis of Washtenaw County Alcohol Safety Action Program Treatment Countermeasures, UM-HSRI-AL-73-15.
11. Analysis of Washtenaw County Alcohol Safety Action Program Crash Criterion Measures, UM-HSRI-AL-73-16.
12. Washtenaw County Alcohol Safety Action Program Evaluation Summary, UM-HSRI-AL-73-17.

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1. SUMMARY OF ARREST ACTIVITY

The Alcohol Safety Action Program (ASAP) in Washtenaw County initiated special enforcement actions within three local police agencies. The data indicate that the objective of increasing the number of arrests for drunk driving charges was achieved. During the first two operational years of the program (1971 and 1972), arrests increased 75% over the baseline period, a greater increase than would have been expected based on the experience of the remainder of the State.

Arrest data for the last five months of the special patrol activity (January through May 1973) indicate that the upward trend in the number of arrests appears to be over. Arrests dropped to a slightly lower level than during a comparable time period in 1971. This decrease cannot be fully related to the termination of the ASAP program, for although fewer arrests were made by police departments which were ending their participation in ASAP, a decline in arrest activity also occurred in other local police departments which were not ASAP participants.

Several factors may have contributed to the effectiveness of the special patrol activity. The Sheriff Department patrols were most effective (using arrest rate per patrol mile and patrol hour) during the first three quarters of 1972. It is likely that the use of more evening and late-night patrols contributed to their improvement. The Ann Arbor special patrols increased their effectiveness when a change was made from one-man to two-man patrol units. The same individual officers, when paired as a team, improved their arrest rates with a concurrent decrease in vehicle costs. The initial arrest rate of the Ypsilanti special patrols was high, as was the initial increase in Ypsilanti regular patrol arrests. The latter may have been related to the fact that officers on special patrol duty were rotated from among a department-wide pool.

Recent legal changes appear to have had effects on the pattern of arrests. In January 1972, Michigan's legal drinking age was changed from 21 to 18 years. Three months later, the

presumptive limits for intoxicated and impaired driving were also lowered. In 1972, the number of arrested drivers aged 16 to 20 years increased 208% over the previous year (from 49 to 151 persons). During the January through May 1973 period, no further change was noted in the proportion of arrested young drivers compared to 1972. Although the proportion of young drivers with blood alcohol concentrations (BAC) below .10 increased, perhaps as a function of the newly lowered presumptive limits, it is possible to explain only a small proportion of the increase in arrests by the lower presumptive limits.

A positive trend was noted with regard to older arrestees. Notwithstanding an 11% increase in the number of 1972 arrestees aged 21 years or older, there were both absolute decreases and proportional decreases in the number of such drivers arrested with BAC \geq .20. This decrease in the number of persons with high BAC is clearly in accord with program objectives to the extent that it reflects a reduction in the number of very intoxicated drivers on the highways.

A slightly increasing proportion of arrestees is female. Unemployed and blacks are over-represented among the arrest population. Ann Arbor residents are under-represented although they comprise a growing proportion of arrestees. Ypsilanti residents are considerably over-represented. Although the arrest population does not match the county population on a number of demographic variables, there is no evidence to suggest that police enforcement actions have been selectively biased against any one particular segment of the community.

2. INTRODUCTION

The primary objective of the Washtenaw County Alcohol Safety Action Program (WCASAP) has been to reduce the number of alcohol-related crashes and the consequences of such crashes. The program has been fully operational since March 1971, and has several components, termed countermeasure activities, which are directed toward those elements thought to contribute to the occurrence of alcohol-related crashes. Countermeasure activities include public information and education, the apprehension of drunk drivers, and the identification and treatment of persons who misuse alcohol in the driving situation or who have other problems with alcohol use.

The evaluation and description of the various countermeasure areas, as well as the discussion of total program impact measured by alcohol-related crashes and roadside surveys are discussed in separate reports. The contents of this report are primarily related to program efforts in the apprehension of drunk drivers. This ASAP-related police activity has been directed toward increasing the number of drunk driving arrests in order to bring more potential alcohol-related crash involved drivers into other program countermeasure areas.

3. THE SETTING

Washtenaw County has a population of 234,103, with a rapid growth rate of 36% over the past ten years. The cities of Ann Arbor and Ypsilanti (population 99,797 and 29,539 respectively) are the largest in the county. Each has a major state educational institution (The University of Michigan and Eastern Michigan University) and several smaller colleges. Other than the two cities and the highly urbanized area of Ypsilanti Township, the bulk of the remainder of the county is rural.

In the county are three local police departments, a Michigan State Police post, and a number of town and village police forces. The major three, which include the Ann Arbor Police, the Ypsilanti Police, and the Washtenaw County Sheriff Department, have been participating in the ASAP program by adding special alcohol patrols to their regular police forces. These special patrols generally work five nights a week, usually have had one special alcohol patrol vehicle for each department, they select the area they will patrol within their department's geographic jurisdiction, and employ the same arrest procedures as are used by regular patrols. A total of three officers were assigned to special patrol duty in the Ann Arbor department, officers were drawn from a small pool in the Sheriff Department, while selection was made on a department-wide basis in Ypsilanti.

4. DATA SOURCES AND METHODOLOGY

All the police departments in the county have been involved in the ASAP at least to the extent of providing, or allowing access to, arrest summaries of persons charged with drunk driving or Drunk & Disorderly offenses. These arrest summaries, as well as the activity logs completed at the end of each special patrol shift, form the sources of data on which this report is based (see Appendix A for copies of summary forms). The time period covered includes the baseline of 1969 and 1970, and the subsequent two years of program operation. Some discussion is included on January-May 1973 arrest activity. May was the termination date for the special patrols although some program elements continued through June.

Arrest trends for Washtenaw County have been compared to the experience of the remainder of the State of Michigan. State data are compiled by the Michigan State Police as a part of their breathtesting program. Some comparisons have been made between regular police patrols and special police patrols, although data on the former are limited to number of drunk driving arrests. In all cases, the data presented are a compilation of the population of arrestees as opposed to a sample drawn from these populations. Therefore observations about the arrest populations are not subject to sampling variation nor the use of statistical tests of significance appropriate to samples.

5. RESULTS

5.1 NUMBER OF DRUNK DRIVING ARRESTS

The primary objective of police patrol activities has been to identify and apprehend more drinking drivers. The arrest data indicate that this objective was achieved, although subsequent findings suggest that the high point is now past. In 1969 and 1970, Washtenaw County arrests for Driving Under the Influence of Liquor (DUIL) and Impaired Driving totaled 643 and 678 respectively (see Table 1). County-wide arrests totaled 1047 in 1971, the first year of ASAP operation, and 1262 in 1972. When the two years of baseline arrests are compared to program period arrests, the data indicate a 75% increase. The comparative statewide increase in arrests for this period was 38%.

Arrests per registered vehicle are plotted in Figure 1 for both Washtenaw County and the remainder of the state. The data indicate that arrest rates have been, and continue to be, higher in Washtenaw County than in the remainder of the state. The largest increase in Washtenaw County arrests occurred between 1970 and 1971, concurrent with the initiation of the ASAP program. After reaching a peak in 1972, the Washtenaw County arrest rate dropped off considerably. The trend in state arrests was unlike that found in Washtenaw County. The largest statewide increase occurred between 1971 and 1972, while the arrest rate continued to increase into 1973.* Much of the statewide increase may be related to the passage of two revised laws; one lowering the age of majority to 18 years and the other lowering the presumptive limits for intoxicated and impaired driving. These subjects are discussed further in Section 5.3.4.

*Arrest data in Washtenaw County were available for January-May only. 1973 arrest rates were estimated by using the average annual proportion of arrests made during January-May (.43 in Washtenaw County, .41 in the state) and the average annual increase in vehicle registrations (.06 in Washtenaw and .05 in the state).

TABLE 1. DISTRIBUTION OF DUIL/IMPAIRED ARRESTS BY POLICE DEPARTMENT AND YEAR COMPARED TO STATE

Police Department	1969 N	1969 %	1970 N	1970 %	1971 N	1971 %	1972 N	1972 %	% Change Baseline/ Program
ASAP Participants									
Ann Arbor	169	26	157	23	252	24	440	35	+112%
Ypsilanti	170	26	210	31	351	34	394	31	+96%
Sheriff	83	13	101	15	155	15	151	12	+66%
Non-ASAP									
State Police	122	19	136	20	182	17	188	15	+43%
Saline	69	11	38	6	63	6	50	4	+6%
All Others	30	5	36	5	44	4	39	3	+26%
Total									
Washtenaw County	643	100	678	100	1047	100	1262	100	+75%
Other Michigan	20727		23511		26337		34509		+38%

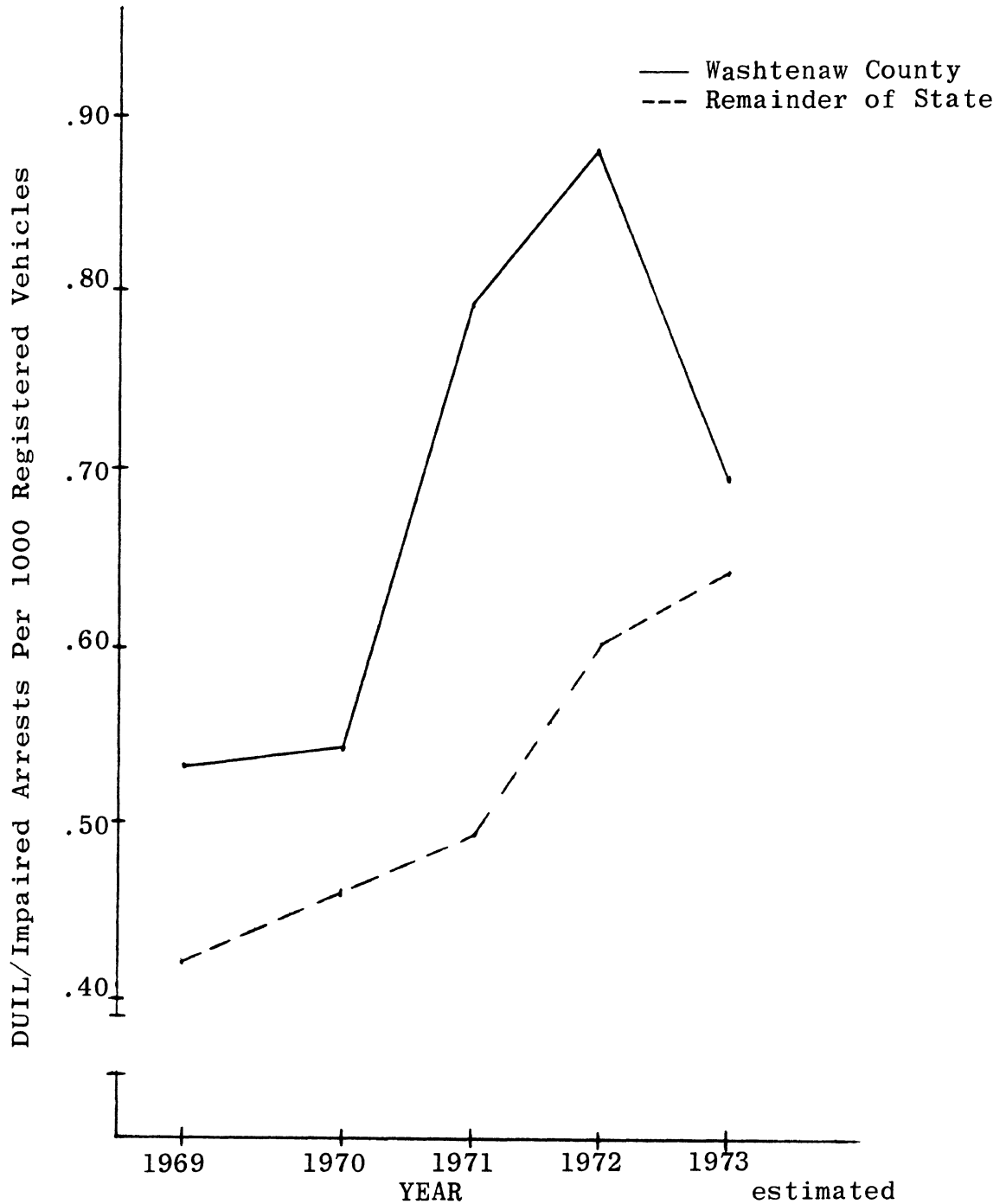


FIGURE 1. DUI/IMPAIRED ARREST RATES* PER 1000 REGISTERED VEHICLES, WASHTENAW COUNTY AND REMAINDER OF STATE OF MICHIGAN

*1973 arrest rates estimated based on average annual increase in vehicle registrations and average proportion of annual arrests made during January-May.

5.2 SPECIAL ALCOHOL PATROL ACTIVITY

The three major police departments in Washtenaw County have been participating in the ASAP program through the addition of special alcohol patrols which emphasize the apprehension of drunk drivers.

When the ASAP participating departments (identified in Table 1) were compared to other Washtenaw County police, the increase in the number of arrests from the baseline to the program period was in all cases greater among ASAP participants. The experience of the non-participants more closely paralleled that of the state. Similarly the proportion of total Washtenaw County arrests made by ASAP participating departments increased each year.

Although the upward trend in Washtenaw County 1971 arrests is closely related to the ASAP program, the question arises regarding whether the upturn was primarily due to the special patrols, or whether these patrols, or the program in general, had a positive effect on regular patrols. Displayed in Table 2 are the number of arrests by patrol type for the three departments having special patrols. Comparative data are also presented for the state. From 1970 to 1971, statewide arrests increased 12%. During this same time period, the increase in arrests made by Washtenaw County regular patrols was greater than the state, ranging from 20% to 40%. Thus it may be concluded that the arrest patterns of regular patrols were initially and positively influenced by either the special patrols or the program in general.

Changes in regular patrol activity between 1971 and 1972 were not quite as positive as during the previous year. The Ann Arbor regular patrols increased arrests 30%, similar to the state experience. Ypsilanti regular patrols increased arrests by 7% while a slight decrease in arrests took place among Sheriff Department regular patrols. Given comparable time period increases in arrests made by special patrols, one cannot easily hypothesize that the smaller increase in arrests was because fewer drunk drivers were on the road, but rather that the impetus for making arrests had diminished slightly by the second year of operation.

Arrest trends for 1973 show generally negative results. Arrest data were tabulated through May 1973, the termination date

TABLE 2. DISTRIBUTION OF DUIL/IMPAIRED ARRESTS BY PATROL TYPE
AND YEAR COMPARED TO THE STATE OF MICHIGAN

Police Department	Number of Arrests						
	1969 N	1970 N	Yearly Change	1971 N	Yearly Change	1972 N	Yearly Change
Ann Arbor Police	169	157	-7%	197	+25%	256	+30%
Regular Patrols				55		184	+234%
Special Patrols							
Ypsilanti Police	170	210	+24%	294	+40%	316	+7%
Regular Patrols				57		78	+37%
Special Patrols							
Sheriff Department	83	101	+22%	121	+20%	108	-11%
Regular Patrols				34		43	+26%
Special Patrols							
Other Michigan	20727	23511	+13%	26337	+12%	34509	+31%

of the special patrol activity (see Table 3). Both within the Ann Arbor and Ypsilanti departments and among other non-participating police departments, the total number of drunk driving arrests decreased in 1973. The number of arrests in 1973 is most similar to the comparable 1971 period, unlike the trends in the remainder of the state.

TABLE 3. DISTRIBUTION OF DUIL/IMPAIRED ARRESTS BY PATROL TYPE AND PATROL PERIOD

Police Department	January-May 1971	Number of Arrests	
		January-May 1972	January-May 1973
Ann Arbor			
Regular	81	103	97
Special	8	66	56
Ypsilanti			
Regular	136	135	97
Special	19	32	27
Sheriff			
Regular	53	52	79
Special	19	22	6
Other Washtenaw County			
	150	122	93
Total Washtenaw County			
	466	532	455
Other Michigan	11,349	14,330	16,027

As noted in the introduction, the police departments which have special alcohol patrols generally have had a single patrol car available for use at any one time. Shown in Figure 2 is the distribution of these patrols by the day of week the patrol began. The percentage distribution of all DUIL/Impaired arrests made in the county for the particular year is also indicated. The plot indicates that the Ypsilanti special patrols were consistent over both years with regard to concentration of patrols on the weekend (the Sunday shift is from 12:01 to 3AM). Ann Arbor patrols generally did not work on Sunday or Monday nights,

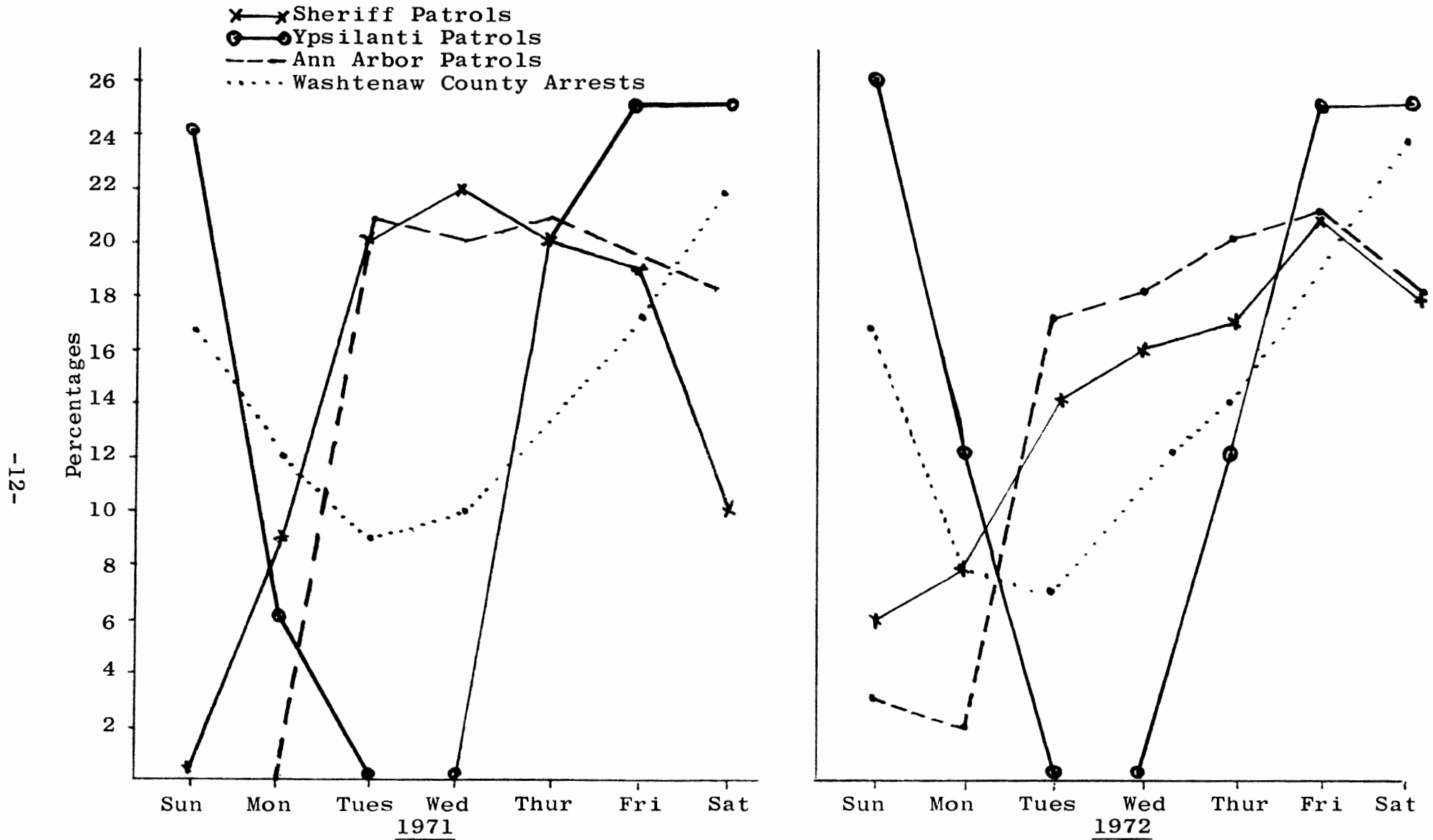


FIGURE 2. PERCENTAGE DISTRIBUTION OF SPECIAL PATROLS COMPARED TO PERCENTAGE DISTRIBUTION OF ALL WASHTENAW COUNTY DUI/IMPAIRED ARRESTS BY DAY OF WEEK (GIVEN AS DAY ON WHICH THE PATROL VEHICLE BEGAN THE WORK SHIFT)

in either 1971 or 1972. The Sheriff Department patrols showed the greatest change over the two years, concentrating more 1972 shifts on weekends rather than midweek. The pattern of arrests by day of week changed only slightly, with the Monday-Wednesday period producing the lowest proportion (see Appendix Table B.1 for three year distribution of special patrols by day of week).

The time of day at which the special patrols begin their shift varies between departments and by year. A summary of the most frequently used shifts appears in Table 4 while the hourly distribution appears in Table B.2. In 1972, with the availability of two men rather than one man for a shift, the Sheriff Department reduced daylight hour shifts from 1971 levels. The Ypsilanti and Ann Arbor shifts varied only slightly by year. Relative to county-wide arrest patterns, the most productive time period is known to be from midnight to 4AM (50%), followed by 8PM to midnight (23%) and 4PM to 8PM (9%).

TABLE 4. SUMMARY TABULATION OF MOST FREQUENTLY USED SPECIAL PATROL SHIFT HOURS (BY HOUR AT WHICH SHIFT BEGAN)

Year	Sheriff (8 hour shifts)		Ypsilanti (3 hour shifts)		Ann Arbor (8 hour shifts)	
1971	8AM	41%	9PM	47%	5PM	20%
	7PM	33%	MID	53%	6PM	11%
					7PM	22%
					8PM	37%
1972	6PM	24%	9PM	49%	5PM	10%
	7PM	29%	MID	47%	7PM	80%
	8PM	15%				
1973	9AM	7%	9PM	49%	7PM	95%
	5PM	73%	MID	49%		
	7PM	17%				

The arrest rate per patrol mile indicates different trends for the three departments having special patrols. Figure 3 presents a plot on arrest rates per patrol mile by quarter and year. (The distribution of arrests and miles traveled also appears in

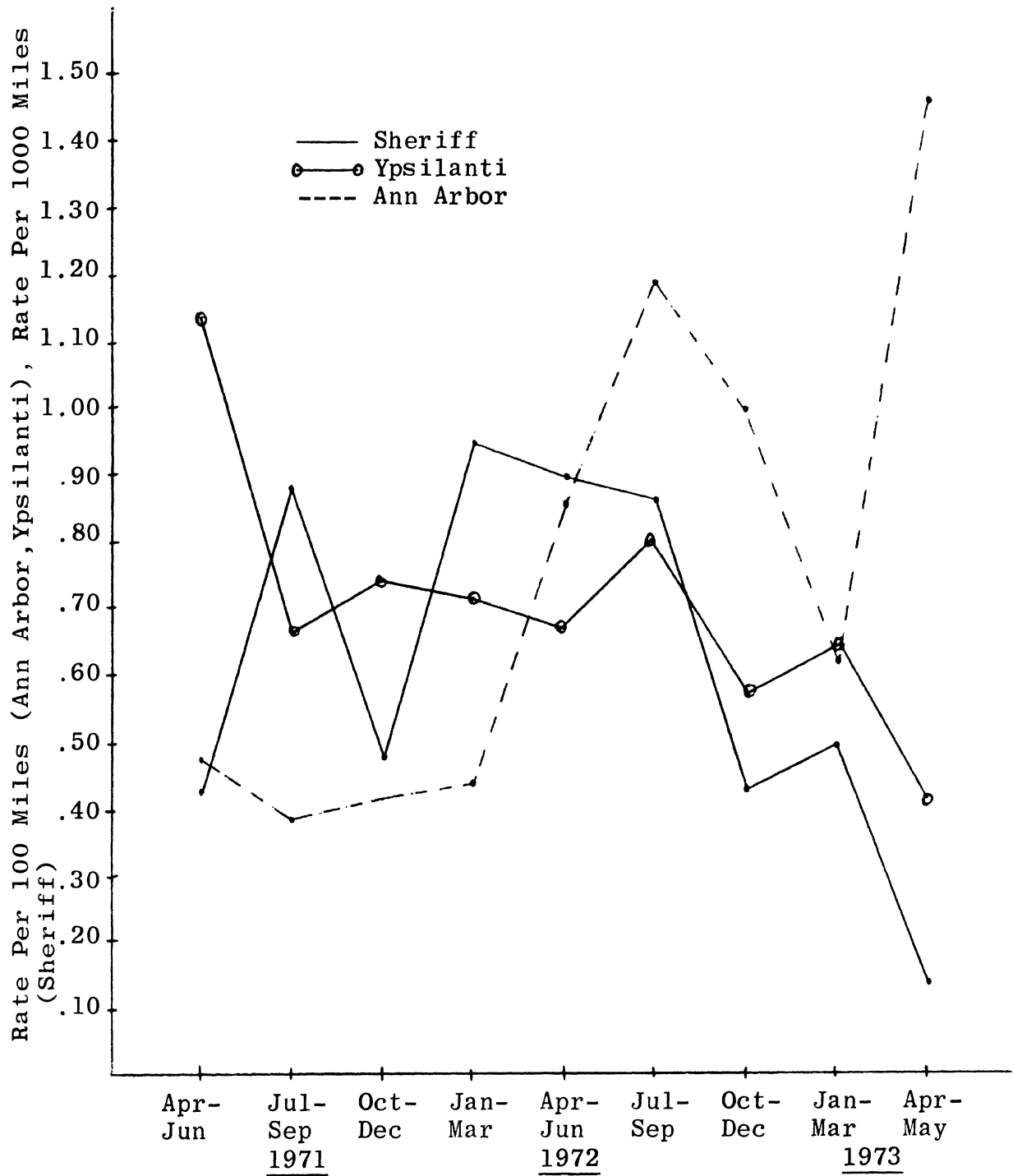


FIGURE 3. SPECIAL PATROL ARREST RATE PER 100 MILES BY QUARTER (SHERIFF DEPARTMENT BASED ON RATE PER 1000 MILES)

B.3.) The arrest rate for the Sheriff Department (shown as arrests per 1000 miles) reached a peak during the first three quarters in 1972 and began to taper off at that time. The Ypsilanti special patrols began with the highest arrest rate per mile and showed a decrease in both 1972 and 1973. The Ann Arbor special patrols improved their arrest rate considerably in mid-1972 and, unlike the other two departments, ended with a high rate. The differences in trends between the three departments are only partially explained by other data at hand. It is likely that much of the improvement in arrest rates for the Sheriff Department was related to the change to nighttime patrolling. The Ann Arbor improvement was partially related to a change to two-man patrol units. During January-May 1972, when most Ann Arbor patrols were by one man, the arrest rate per patrol car was .38. With subsequent utilization of two-man patrols the rate doubled to .77 arrests per patrol car. The arrest rate per person went from .37 for the one man unit to .45 for two-man units. Thus the officer as a member of a pair was more effective than when working alone. A savings in vehicle costs would also be made.

As a general statement, arrest rates might be expected to differ between departments. The Washtenaw County Sheriff Department generally patrols that area of the county not incorporated into cities or towns. The population density in the area over which the Department has jurisdiction is approximately 151 persons/square mile. Ypsilanti, comprising only 0.5% of the county land area, has the highest population density with 7384/square mile. Ann Arbor, with 3% of the land area has a population density of 4536/square mile.

The DUIL arrest rate per patrol hour derived from data in Appendix Tables B.4-B.6 has shown the same change as the DUIL arrest rate per mile traveled. The Sheriff Department made 1.1 DUIL arrests per 100 patrol hours in 1971. The rate increased to 2.2 arrests/100 patrol hours in 1972 and dropped to .88 in 1973. The Ypsilanti rate showed a decrease, from 13.9 arrests/100 patrol hours in 1971, to 10.3 in 1972 and 8.4 in 1973. The comparable Ann rate increased from 9.5, to 16.7 in 1972 and 18.1 in 1973.

5.3 PATTERN OF ARRESTS

Despite the rise in the number of arrests, the pattern has been relatively stable in terms of time of arrest and charge. Exceptions to this stability on other variables may be a result of recent legal changes.

5.3.1 Charge for Which Arrested

Two arrest charges, DUIL and Impaired, are used in Michigan for alcohol-related traffic offenses witnessed by a police officer. In three of the past four years, arrests for DUIL have comprised 94% of such cases.* The lesser included offense of Impaired Driving has accounted for the remaining 6% and is usually associated with a lower BAC. Table 5 presents the distribution of arrests by charge and year.

TABLE 5. DISTRIBUTION OF ARREST CHARGES BY YEAR

Arrest Charge	1969	1970	1971	1972
DUIL	603 (94%)	655 (97%)	982 (94%)	1192 (94%)
Impaired	40 (6%)	23 (3%)	65 (6%)	70 (6%)
Total	643	678	1047	1262

5.3.2 Day of Week and Time of Day

No major shifts have occurred in arrest patterns with respect to day of week (Table B.7) or time of day (Table B.8). From 56-60% of the arrests were made on Friday through Sunday, and approximately one-half were made between midnight and 4AM.

5.3.3 Crash-Related Arrests

Information on crash-associated arrests was recorded on 1971 and 1972 arrest summaries. Table 6 presents data on the crash

*The same distribution does not hold in charge for which convicted. Approximately 54% of those arrested for DUIL are convicted of Impaired driving.

TABLE 6. DISTRIBUTION OF 1971 AND 1972 ARRESTS BY CHARGE AND CRASH INVOLVEMENT

Arrest Charge	No Crash	Non-report-able Crash	Driver/ Fatal Crash	Driver/ Injury Crash	Driver/ Property Damage Crash	Passenger in Crash	Pedestrian Crash	Missing Data	Total
DUIL	1828 (82%)	9	0	103 (5%)	174 (8%)	0	0	107 (5%)	2221
Impaired	115 (84%)	2	0	5 (4%)	6 (4%)	0	0	8 (6%)	136
D&D	1595 (85%)	7	0	68 (4%)	88 (5%)	14	1	96 (5%)	1869
Minor in Possession	3 (100%)	0	0	0	0	0	0	0	3
Other	30 (86%)	0	1* (3%)	1 (3%)	1 (3%)	0	0	2 (5%)	35
Missing	1 (50%)	0	0	0	1 (50%)	0	0	0	2
Total	3572 (84%)	18	1	177 (4%)	270 (6%)	14	1	213 (5%)	4266

*Charge was manslaughter.

involvement of 4266 arrestees who were either charged with an alcohol-related offense (DUIL, Impaired driving or Drunk & Disorderly) or referred to the ASAP on some other charge because of a possible drinking problem. Thirteen percent of the DUIL arrests, 10% of Impaired arrests, and 10% of Drunk & Disorderly (D&D) arrests involved crashes. Among all arrestees, 6% were drivers involved in property damage crashes and 4% were drivers in injury crashes. Except for the 163 crash-involved D&D offenders, it cannot be determined how many D&D arrestees were driving at the time of their offense. The D&D charge is frequently used when driving is not witnessed by a police officer or other complainant.

5.3.4 Age and BAC of Arrestees

The age and BAC of arrestees are perhaps the two most important descriptors of arrestees, particularly in light of recent legal changes. In January 1972, the age of majority and right to drink legally, was lowered from 21 years to 18 years. On 1 April 1972, a change was made in the presumptive limits for alcohol-related driving offenses. The presumptive limit for intoxicated driving decreased from .15 to .10; and the presumptive limit for Impaired driving was reduced from .10 to .08. Both of these legal changes seem to have had effects on the pattern of arrests made in Washtenaw County.

Table 7 presents the distribution of DUIL/Impaired arrestees by age for the baseline period, the two full years of program operation and January-May 1973. No important differences were found in the age distribution of arrestees between the baseline period and 1971. The same was true of the 1971/1972 distribution when drivers under the age of 21 were excluded from the comparison. The proportion of 16 to 17 and 18 to 20 year olds doubled in 1972 as compared to the baseline period, or as compared to 1971. Sixteen and seventeen year olds accounted for 0.5% of the arrestees in 1969-70, 1.0% in 1972 and 1.3% in the first part of 1973. Eighteen to twenty year olds comprised 5% of arrestees in 1969-70, 11% in 1972 and 10% in 1973.

TABLE 7. DISTRIBUTION OF DUIL/IMPAIRED ARRESTEES BY AGE AND YEAR OF ARREST

Age	1969-1970		1971		1972		Jan-May 1973	
	N	%	N	%	N	%	N	%
16-17	7	0.5%	5	0.4%	13	1.0%	6	1.3%
18-20	72	5	44	4	138	11	45	10
21-25	237	18	187	18	227	18	91	20
26-30	216	16	151	14	198	16	75	16
31-35	149	11	127	12	176	14	70	15
36-40	135	10	142	14	130	10	48	11
41-45	169	13	119	11	116	9	31	7
46-50	137	10	119	11	111	9	36	8
51-55	97	7	66	6	60	5	20	4
56-60	63	5	52	5	47	4	22	5
61-65	21	2	19	2	29	2	7	2
66+	10	1	11	1	9	1	2	<1
Missing	8	1	5	1	8	<1	2	<1
Total	1321	100%	1047	100%	1262	100%	455	100%

Although the legal changes have had an interactive effect on the pattern of arrests, they can be separated to some extent, suggesting both positive and negative results with regard to program goals. This becomes clearer when data are presented for two age groups. Table 8 indicates the distribution of DUIL and Impaired arrestees by BAC for 1971, 1972, and January-May 1973. Shown separately are drivers aged 16 to 20 and 21 years or older. The number of arrested young drivers increased 208% from 49 persons in 1971 to 151 persons in 1972. The major explanation for this large increase in arrests among young drivers appears to be related to the age of majority law. Although the proportion of young arrestees with BAC of .01 to .09 perhaps initially increased as a function of the new, lower presumptive limits, (from 6% in 1971 to 17% in 1972 and 14% in 1973), the exclusion of this group of lower BAC arrestees still leaves a 153% increase of young arrestees in the 1972 group (96) as compared to 1971 (38). The

TABLE 8. DISTRIBUTION OF DUIL/IMPAIRED ARRESTEES BY AGE GROUP, BAC AND YEAR OF ARREST

(A) DRIVERS AGED 16-20

BAC	1971		1972		January-May 1973	
	N	%	N	%	N	%
Negative	0	0	3	2	0	0
01-04	1	2	5	3	4	8
05-09	2	4	21	14	3	6
10-14	15	31	43	29	9	18
15-19	16	33	44	29	19	37
20-24	7	14	9	6	4	8
25-29	0	0	0	0	1	2
30-34	0	0	0	0	0	0
35+	0	0	0	0	0	0
Not tested/ Missing	8	16	26	17	11	22
Total	49	100%	151	100%	51	100%

(B) DRIVERS AGED 21+

BAC	1971		1972		January-May 1973	
	N	%	N	%	N	%
Negative	1	0	1	0	2	<1
01-04	1	0	3	0	0	0
05-09	8	1	34	3	13	3
10-14	99	10	174	16	60	15
15-19	260	26	331	30	129	32
20-24	229	23	226	21	83	21
25-29	111	11	70	6	28	7
30-34	35	4	15	1	6	1
35+	10	1	4	0	1	<1
Not tested/ Missing	239	24	245	22	83	21
Total	993	100%	1103	99%	404	100%

BAC of young 1973 arrestees tend to be in higher ranges than in 1972, although during all years they are considerably below those of older arrestees.

The second important point relates to the distribution of BACs for older arrestees. In spite of the 11% increase in the number of older persons arrested (993 in 1971 and 1103 in 1972), there has been both an absolute decrease (385 in 1971 to 315 in 1972) and proportional decrease (.51 in 1971, .37 in 1972 and in 1973) of persons tested with BAC of .20 or higher. This decrease in the number and proportion of persons with BAC \geq .20 is in accord with program objectives. It could be related to effects of the public information campaign, the treatment countermeasures, or greater awareness by heavy drinkers of police enforcement activities.

5.3.5 Demographic Characteristics of Arrestees

The demographic characteristics of arrestees have shown some minor changes. Data in Table 9 indicate that the overwhelming majority of arrestees are men. Although only two time periods are shown in the table, the proportion of females has been increasing by about 1% each year. Baseline data are not available on D&D offenders, however, the distribution of D&Ds by sex for 1971 and 1972 does not differ from that for DUIL/Impaired offenders arrested during the same time period.

During the baseline period, black arrestees were over-represented (11%) as compared to the proportion of black county residents aged 16 years or older (6.6%). This over-representation of blacks continued into the program period.

Changes have occurred in the distribution of arrestees by residence. An increasing proportion of Ann Arbor residents are being arrested with a concurrent decrease in the proportion of Ypsilanti residents. Nevertheless, Ann Arbor residents account for 45% of the county population aged 16 or older and are under-represented among arrestees in both the baseline and program periods. (Ann Arbor residents accounted for 30% of arrested county residents in 1969-70 and 36% of county residents arrested for DUIL during the program period.) Ypsilanti residents are

TABLE 9. DISTRIBUTION OF ARRESTEES BY DEMOGRAPHIC CHARACTERISTICS, ARREST CHARGE AND YEAR

Sex	1969-1970		1971-1972		1971-1972	
	DUIL/IMP		DUIL/IMP		D&D	
Male	1252	95%	2166	94%	1742	94%
Female	61	4	143	6	118	6
Missing	8	1	0	0	1	<1
Total	1321	100%	2309	100%	1861	100%
Race						
Caucasian	991	88%	1681	84%	1422	81%
Black	126	11	293	15	312	18
Other	7	1	15	1	22	1
Missing	197	*	320	*	105	*
Total	1321	100%	2309	100%	1861	100%
Residence						
Ann Arbor	273	21%	590	25%	487	26%
Ypsilanti	516	39	801	35	711	38
Other Wash.	121	9	246	11	113	6
State	356	27	588	25	457	25
Out of State	39	3	65	3	48	3
Missing	16	1	19	1	45	2
Total	1321	100%	2309	100%	1861	100%
Occupation						
Professional						
Managerial	99	13%	175	14%	40	5%
Other White						
Collar	47	6	101	8	24	3
Service	77	10	90	7	80	10
Skilled Blue						
Collar	148	19	257	20	113	13
Laborer	299	39	374	29	250	30
Housewife	11	1	22	2	11	1
Student	43	6	97	7	84	10
Retired	11	1	25	2	15	2
Unemployed	42	5	144	11	216	26
Missing	544	*	1024	*	1028	*
Total	1321	100%	2309	100%	1861	100%

*=not counted in percentage distribution

over-represented with 14% of the county population, 57% of county arrestees in the baseline period and 49% during the program period. The increase in arrestees who reside in Ann Arbor may be a result of ASAP police enforcement. However, the initial differences between Ann Arbor and Ypsilanti arrest patterns may in part have been due to differences in population characteristics. One-quarter of the arrestees are not residents of the county although they live in Michigan and may work in the area.

The occupational distribution of arrestees contains a great deal of missing information since this data item is difficult to get or of minor concern to police personnel at the time the arrest is made. Laborers and skilled blue collar workers comprise the largest proportion of employed arrestees. Students, who account for 16% of the county population aged 16 years or older, comprise 7% of the DUIL arrestees and 10% of D&D arrestees. According to 1970 census data, 4% of the Washtenaw County labor force aged 16 to 64 was unemployed (5% among males). Eleven percent of DUIL arrestees and 26% of D&D arrestees were unemployed. The percentage is even higher when those arrestees not in the labor force are excluded.

APPENDIX A
DATA SOURCE FORMS

HSRI #
1-5

DAILY ACTIVITY SHEET FOR SPECIAL ALCOHOL PATROLS

6-2

YPSILANTI POLICE DEPARTMENT

DATE		
MO	DATE	YR
7-8	9-10	11-12

DAY 13	
— (1)SUN	— (5)THURS
— (2)MON	— (6)FRI
— (3)TUES	— (7)SAT
— (4)WED	

TIME IN 14-17
AM
PM
TIME OUT 18-21
AM
PM
TOTAL 22-25

VEHICLE 26
— (1)MARKED
— (2)SEMI-MKED
— (3) UNMARKED

BADGE #
NAME
#27-29
NAME
#30-32

AREA 33-34
— (20)#1
— (21)#2
— (22)#3
— (23)#4
— (26)RANDOM

SPECIAL ASSIGNMENT 35
— (1)NEAR BARS
— (2)HIGH TRAFFIC VOL
— (3)ALC CRASH SITES
— (4)ALC ARREST SITES
— (5)BAC SURVEY SITE
— (6)OTHER
— (7)NONE

FINISH MILE
START MILE
TOTAL 36-38

39 ___ DUIL/Imp. Arrests - No Accid
40 ___ DUIL/Imp. Arrests - Accid
41 ___ DUIL/Imp. Arrest Assists
42 43
HRS MIN (nearest 10)

58 ___ Accidents Investigated
59 ___ Assist Accid Invest
60 61
HRS MIN (nearest 10)
(If an arrest resulted from the accid invest., show arrest time in the appropriate arrest box.)

44 ___ D&D Arrests-Vehicle Related, No Accid
45 ___ D&D Arrests - Accid
46 ___ D&D Arrests - No Vehicle
47 ___ D&D Arrest Assists
48 49
HRS MIN (nearest 10)

TIME ON ACTIVITIES	
HRS	MIN (nearest 10)
62-63	Patrol time, Citations
64-65	Court Time (On Duty)
66-67	Special Traffic Detail
68-69	Meetings/Training
70-71	Office/Reports
72-73	Food/Gas/Misc.

50 ___ Other Arrests/Assists
51 52
HRS MIN (nearest 10)

53 ___ Traffic Citations

54 ___ Verbal Warnings-Alcohol Related
55 ___ Verbal Warnings-Not Alcohol Related

56 ___ Traffic Stops-No Action Taken
Non Traffic Complaints Invest -
57 ___ No Arrest

**HIGHWAY SAFETY RESEARCH INSTITUTE
WASHTENAW COUNTY ARREST RECORD SUMMARY**

To be filled out for DUIL, DRIVING WHILE IMPAIRED, & DRUNK & DISORDERLY arrests

NAME _____

DRIVER LICENSE # _____

POLICE CASE # _____

ARRESTING PD
<input type="checkbox"/> 1. W.C. Sheriff
<input type="checkbox"/> 2. Ypsilanti
<input type="checkbox"/> 3. Ann Arbor
<input type="checkbox"/> 4. Mich. State

PATROL TYPE
<input type="checkbox"/> 1. Normal
<input type="checkbox"/> 2. Special Alcohol Patrol

ORIGINAL CHARGE
<input type="checkbox"/> 1. DUIL
<input type="checkbox"/> 2. Impaired
<input type="checkbox"/> 3. D&D

DATE OF ARREST

Mo Date Yr

TIME OF ARREST
AM
PM

DAY OF ARREST
<input type="checkbox"/> 1. Mon. <input type="checkbox"/> 5. Fri.
<input type="checkbox"/> 2. Tues. <input type="checkbox"/> 6. Sat.
<input type="checkbox"/> 3. Wed. <input type="checkbox"/> 7. Sun.
<input type="checkbox"/> 4. Thurs. <input type="checkbox"/> 9. MD

DID ARREST FOLLOW A TRAFFIC ACCIDENT
<input type="checkbox"/> 1. Yes \longrightarrow <input type="checkbox"/> 1. Fatal crash
<input type="checkbox"/> 2. No <input type="checkbox"/> 2. Injury crash
<input type="checkbox"/> 9. Not known <input type="checkbox"/> 3. Property damage crash

MAILING ADDRESS OF ARRESTEE
<input type="checkbox"/> 1. Ann Arbor
<input type="checkbox"/> 2. Ypsilanti
<input type="checkbox"/> 3. Remainder of Wash. Co.
<input type="checkbox"/> 4. In-state, not Wash. Co.
<input type="checkbox"/> 5. Out-state
<input type="checkbox"/> 9. Not known

SEX
<input type="checkbox"/> 1. Male
<input type="checkbox"/> 2. Female
<input type="checkbox"/> 3. Not known

RACE
<input type="checkbox"/> 1. White
<input type="checkbox"/> 2. Black
<input type="checkbox"/> 3. Other
<input type="checkbox"/> 9. Not known

BIRTHDATE

Mo Date Yr

OCCUPATION _____

Age _____ yrs.

YEAR OF VEHICLE

MAKE OF VEHICLE

MODEL OF VEHICLE

BREATHALYZER
<input type="checkbox"/> 1. Tested
<input type="checkbox"/> 2. Not offered
<input type="checkbox"/> 3. Refused test
<input type="checkbox"/> 9. Not known

BLOOD ALCOHOL LEVEL
First _____ Second _____

TYPE OF ROAD WHERE ARREST WAS MADE
<input type="checkbox"/> 1. Expressway (I-94)
<input type="checkbox"/> 2. US Highway (23,12)
<input type="checkbox"/> 3. State Highway (14,17, 52)
<input type="checkbox"/> 4. County Road
<input type="checkbox"/> 5. City Street
<input type="checkbox"/> 9. Not known

SPECIFIC LOCATION OF ARREST (give street or cross street, city & township)

_____ City Twp

LOCATION WHERE DRINKING OCCURRED
<input type="checkbox"/> 1. Bar
<input type="checkbox"/> 2. Restaurant
<input type="checkbox"/> 3. Sport or recreational event
<input type="checkbox"/> 4. Private home
<input type="checkbox"/> 5. In vehicle
<input type="checkbox"/> 6. Outdoors
<input type="checkbox"/> 7. Other _____
<input type="checkbox"/> 9. Not known

MILES FROM ARREST SITE TO ARRESTEE'S ANTICIPATED DESTINATION
_____ miles

APPENDIX B

DATA TABULATIONS

TABLE B.1. PERCENTAGE DISTRIBUTION OF SPECIAL PATROLS BY DAY OF WEEK* AND YEAR

	<u>Sunday</u>	<u>Monday</u>	<u>Tuesday</u>	<u>Wednesday</u>	<u>Thursday</u>	<u>Friday</u>	<u>Saturday</u>	<u>Total</u>
Sheriff								
1971	<1%	9%	20%	22%	20%	19%	10%	100%
1972	6%	8%	14%	16%	17%	21%	18%	100%
1973	11%	12%	16%	16%	15%	16%	14%	100%
Ypsilanti								
1971	24%	6%	0	0	20%	25%	25%	100%
1972	26%	12%	0	0	12%	25%	25%	100%
1973	25%	11%	0	0	15%	23%	26%	100%
Ann Arbor								
1971	0	0	21%	20%	21%	20%	18%	100%
1972	3%	2%	17%	18%	20%	21%	18%	99%
1973	0	11%	18%	18%	20%	22%	11%	100%

*Given as the day on which the patrol began. Patrols are defined by vehicles used during one shift.

TABLE B.2. DISTRIBUTION OF SPECIAL PATROLS BY HOUR
SHIFT BEGAN AND YEAR

	Sheriff (8 hour shifts)			Ypsilanti (3 hour shifts)			Ann Arbor (8 hour shifts)		
	1971	1972	1973	1971	1972	1973	1971	1972	1973
Midnight				129	197	82		2	
1AM					1				
2								1	
3									
4		10							
5	5	18							
6	6	2							
7	12	13							
8	137	31					4		
9	4	7	10		2		1	1	
10	22	5							
11	4	4							
Noon	1	2			4	2			
1PM	2	6					2		
2	8	2					1	1	
3	2	5	1				3	1	
4	14	9					13	4	
5		2	102				50	32	
6	4	93	1				26	7	3
7	108	111	24	1	1		54	262	93
8	1	58	1	1	1		90	8	
9		1		114	190	82		2	
10					1			2	2
11					5			1	
Missing	1	3				1		4	
Total	331	382	132	245	402	167	244	328	98

TABLE B.3. ARREST RATE PER 100 MILES FOR SPECIAL ALCOHOL PATROLS

	Sheriff Department		Ypsilanti Police Department		Ann Arbor Police Department	
	Miles	Arrests	Miles	Arrests	Miles	Arrests
1971						
Apr-June	12,047	5	2,023	23	3,379	16
July-Sept	10,270	9	2,559	17	4,735	18
Oct-Dec	12,764	6	2,298	17	4,994	21
Total 1971	35,081	20*	6,880	57	13,108	55
1972						
Jan-Mar	13,770	13	2,686	19	8,178	36
Apr-June	15,800	14	3,005	20	6,025	51
July-Sept	14,047	12	2,888	23	4,510	53
Oct-Dec	9,537	4	2,806	16	4,504	44
Total 1972	53,164	43	11,385	78	23,217	184
1973						
Jan-Mar	10,475	5	2,992	19	3,925	24
Apr-May	7,230	1	1,969	8	2,208	32
Total 1973	17,705	6	4,961	27	6,133	56

*Fourteen additional arrests were made in March 1971 although the special patrols had not formally begun operation.

Rate

TABLE B.4. ACTIVITIES AND ALLOCATION OF TIME OF SPECIAL PATROLS IN 1971

Activity	<u>Sheriff</u>			<u>Ypsilanti</u>			<u>Ann Arbor</u>		
	#	Hours	% of Total Time	#	Hours	% of Total Time	#	Hours	% of Total Time
DUIL Arrests	20	2	0	57	80	10	55	91	4
D&D Arrests	11	0	0	31	19	2	3	2.5	0
Other Arrests	36	0	0	50	28	4	23	14	1
Citations	227			297			732		
Alcohol Warnings	51			161			225		
Other Warnings	276			158			529		
Traffic Stops	Not	Recorded		92			13		
Complaints Investigated	300			94			106		
Accidents Investigated	86	16.5	1	12	6.5	1	12	10	0
Court Time		60.5	2		0			13.5	1
Special Detail (survey, radar)		48.5	2		28.5	4		426	21
Meetings		66.5	3		0			128	6
Office		264.5	10		6.5	1		66.5	3
Patrol		1773	67		408	53		579.5	28
Other		391	15		195.5	25		712.5	35
Total		2622.5	100%		722	100%		2043.5	99%

TABLE B.5. ACTIVITIES AND ALLOCATION OF TIME OF SPECIAL PATROLS IN 1972

Activity	Sheriff			Ypsilanti			Ann Arbor		
	#	Hours	% of Total Time	#	Hours	% of Total Time	#	Hours	% of Total Time
DUIL Arrests	43	63.5	2%	78	124.5	10%	184	259.5	7%
D&D Arrests	32	20	1	44	38.5	3	24	17	1
Other Arrests	91	170	6	106	70	6	53	41.5	2
Citations	214			394			1101		
Alcohol Warnings	83			217			377		
Non-alcohol Warnings	362			246			683		
Traffic Stops	788			299			21		
Complaints Investigated	97			166			45		
Accidents Investigated	173	168.5	6	28	17	1	31	25.5	1
Court Time		25	1		0			0	
Special Detail (survey, radar)		111	4		24	2		211.5	8
Meetings		36.5	1		1.5	0		163	6
Office		189	6		51.5	4		385	14
Patrol		1981.5	67		752	62		1102	40
Other		185	6		127.5	11		559	20
Total		2950	100%		1206.5	99%		2764	99%

TABLE B.6. ACTIVITIES AND ALLOCATION OF TIME OF SPECIAL PATROLS IN 1973

Activity	Sheriff			Ypsilanti			Ann Arbor		
	#	Hrs.	% of Total Time	#	Hrs.	% of Total Time	#	Hrs.	% of Total Time
DUIL arrests	6	12	1%	27	46.5	9%	56	60	7%
D&D arrests	2	1	0	2	3	1	11	9.5	1
Other arrests	20	18.5	2	35	24.5	5	16	11	1
Citations	197			171			375		
Alcohol warnings	34			61			91		
Non-alcohol warnings	155			101			96		
Traffic stops	252			147			0		
Complaints investigated	38			96			51		
Accidents investigated	90	76	7	9	5.5	1	16	14.5	2
Court time		9	1		0	0		.5	0
Special detail (survey, radar)		110	10		6	1		78	10
Meetings		31.5	3		.5	0		53.5	7
Office		72.5	7		30.5	6		92.5	11
Patrol		681	63		319	63		310	38
Other		65.5	6		69.5	14		181.5	22
Total		1077	100%		505	100%		811	99%

TABLE B.7. DISTRIBUTION OF DUIL/IMPAIRED ARRESTS BY DAY OF WEEK (GIVEN IN PERCENTAGES)

Day of Week	Year			
	1969	1970	1971	1972
Monday	10%	8%	12%	8%
Tuesday	10	12	9	7
Wednesday	11	10	10	11
Thursday	12	14	13	14
Friday	16	16	17	19
Saturday	24	22	22	24
Sunday	17	18	17	17
Total	100%(643)	100%(678)	100%(1045)*	100%(1262)

*Day missing for two arrests.

TABLE B.8. DISTRIBUTION OF DUIL/IMPAIRED ARRESTS BY TIME OF DAY (GIVEN IN PERCENTAGES)

Time Period	Year			
	1969	1970	1971	1972
MID-4AM	48%	48%	50%	51%
4AM-8AM	7	5	3	6
8AM-NOON	2	2	2	8
NOON-4PM	5	4	4	7
4PM-8PM	10	12	11	7
8PM-MID	25	26	27	19
Missing	3	3	3	2
Total	100%(643)	100%(678)	100%(1047)	100%(1262)