

DRINKING-DRIVING KNOWLEDGE, ATTITUDES, AND BEHAVIOR:
AN ANALYSIS OF THE 1973 AND 1974 HOUSEHOLD SURVEYS
OF THE FAIRFAX ALCOHOL SAFETY ACTION PROJECT

by

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ABSTRACT

The results of the 1974 Household Survey of the Fairfax Alcohol Safety Action Project indicated an unimpressive level of factual knowledge which had not increased significantly since the 1973 survey. There were virtually no meaningful shifts in the respondents' perceptions of the risks of driving while under the influence of alcohol or of their attitudes toward various measures proposed to counter the problem of the drinking driver. Attitude measures indicated a healthy appreciation of the risks involved in driving while under the influence of alcohol. Little change in behavior was noted except for an increase in the number of drivers who reported that they had at least occasionally driven after drinking.

Judging from the survey results, it must be concluded that the public information and education campaign during the year preceding the 1974 Household Survey was ineffectual in increasing the general level of alcohol related knowledge or in changing public attitudes toward the drinking driver, especially when compared with the results of the 1973 campaign.

RESEARCH FINDINGS

Comparison of the 1973 and 1974 Household Surveys of the Alcohol Safety Action Project of Fairfax County, Virginia, shows that when responses in 1974 were compared to those in 1973, there was

- A decrease in the proportion of respondents identifying the problem drinker as the cause of more fatal traffic accidents than the social drinker.
- A decrease in the proportion of respondents giving an at least partially correct definition of the term Blood Alcohol Level.
- A generally low level (68% correct responses to 11 true-false questions) of factual knowledge related to the effects of alcohol (unchanged from 1973).
- A generally healthy estimate of the risks involved in driving while under the influence of alcohol (perceived risk was high but unchanged from 1973).
- A significant increase in the proportion of respondents who thought the likelihood of being stopped by the police if they drove after drinking too much was high or very high.
- No change in the public's attitude toward the use of rehabilitative measures in dealing with drunken drivers.
- A small decrease in the number of respondents favoring jail sentences and an increase in the number of respondents favoring fines as means of dealing with a drunken driver.
- A small decrease in the total amount of driving was reported.
- No significant change in the pattern of drinking behavior.
- An increase in the number of respondents who reported that they often or occasionally drive after drinking.
- Fewer respondents reported that they were aware of the existence of a program such as the ASAP.

CONCLUSIONS

Responses to the 1974 Household Survey of the Fairfax County Alcohol Safety Action Project indicate that the public information and education campaign in the year following the 1973 survey had little effect upon public knowledge of and attitudes toward alcohol and its relation to driving safety.

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BACKGROUND

Alcohol intoxication has been shown to be a significant factor in between 40% and 60% of all fatal traffic accidents. In light of this fact, the National Highway Traffic Safety Administration has made alcohol countermeasures a top priority objective. In 1971, Fairfax County, Virginia, was designated as one of 35 sites where a community based demonstration program of alcohol countermeasures would be established. The Fairfax Alcohol Safety Action Project (ASAP) includes Fairfax County, Fairfax City, Vienna, Falls Church, and Herndon, an area of more than 400 square miles and 520,000 residents. The Fairfax project implemented four basic countermeasures: increased police enforcement during nighttime hours, a special probation office and revised court procedures, rehabilitation and treatment programs for those arrested for drunken driving, and a campaign of public information and education.

The Fairfax Household Survey series was undertaken as the primary means of evaluating the effectiveness of the public information and education (PI & E) countermeasures. To this end, four surveys have been conducted at approximately yearly intervals. The 1971 survey was conducted before the PI & E countermeasures were implemented. It therefore provides a baseline against which to evaluate subsequent changes as regards community knowledge of or attitudes toward drinking and driving. Data from the 1971 baseline study are summarized in a report by Rodman, issued by the Virginia Highway Research Council in March 1973;⁽¹⁾ and 1972 and 1973 surveys are discussed in reports by Robert F. Jordan of the same organization.^(2,3)

PURPOSE

The Household Survey was conceived as an instrument for evaluating the effectiveness of the PI & E campaign. The present report deals with the data gathered in the 1973 and 1974 surveys.

It has three objectives: (1) To summarize the data collected in these two surveys; (2) to determine what changes, if any, have occurred in the areas of public knowledge and attitudes toward drinking and driving while under the influence of alcohol; and (3) to suggest whatever inferences about the effectiveness of the PI & E campaign may be drawn from these data.

METHODOLOGY

Survey Description

Questionnaire

A questionnaire developed by the National Highway Traffic Safety Administration was augmented by a number of questions requested by the advertising agency in charge of the PI & E campaign, Martin & Woltz, in order to assist them in market segmentation. Appendix A is a copy of the version of this questionnaire used in the 1974 survey.

Survey

As evaluator of the Fairfax ASAP, the Virginia Highway and Transportation Research Council subcontracted to the Stoneland Corporation of Chesapeake, Virginia, to carry out the four household surveys. These surveys were conducted at approximately one-year intervals during the life of the project.

Each interview was conducted on a personal basis in the respondent's home. An individual interview lasted approximately 25 to 35 minutes, depending on the nature of the responses given. If the subject was not available for the interview, it was rescheduled. If after three attempts to make contact a subject still had not been interviewed, he was replaced with another randomly selected individual from the same census tract. (The number of individuals so replaced is not available.)

Sampling

The sample universe included all persons 16 years of age or older living in the Fairfax ASAP area. Interviews were completed with 250 men and 250 women residing in 500 households. A random cluster sampling procedure was used. One hundred five-person clusters were selected on the basis of 1970 census tract information furnished by the Northern Virginia Planning Commission. All subjects were drawn from separate households.

Statistical Analysis

The survey data consist of counts of the numbers of individuals choosing each response category. Year-to-year variation was analyzed by means of chi-square statistics generally applied to the whole data table generated by the possible responses to each question. Any exceptions to this general procedure are noted in Appendix B, which contains all of the responses to the survey questions in tabular form, broken down by year.

It was considered desirable to have some simple description of a whole area of interest such as alcohol related knowledge or drinking behavior. To this end, a series of numerical scales were developed by combining the responses to all questions bearing on a particular area. These scales have the added advantage of being amenable to analysis by means of more powerful parametric statistics. The construction of the scales is described in Appendix C.

RESULTS

Responses for all questionnaire items on the 1973 and 1974 surveys are tabulated in Appendix A. Responses to individual items are grouped according to the area to which they relate, i.e., all questions relating to knowledge are grouped together, etc.

Demographic Data

Demographic data from the 1973 and 1974 surveys are presented in Appendix B1. With the exception of income and its correlates (i.e. the number of automobiles per household), there are few differences in the major demographic variables between the 1973 sample and the 1971 sample as described in Rodman's report. The number of people reporting incomes in excess of \$20,000 rose steeply between 1971 and 1973 and again between 1973 and 1974. A significant decrease in the number of people in the lowest income category was also noted in 1974. In this year 50% of the respondents reported an annual income of \$20,000 or above. There were no significant changes in the racial composition of the sample,* the level

*Though not statistically significant, the number of nonwhite respondents dropped from 16 in 1973 to 12 in 1974. Figures from the 1970 census⁽⁴⁾ indicate that blacks comprise about 3.5% of the population of Fairfax County, and other nonwhite residents another 0.7%. Blacks are therefore somewhat under-represented in the 1973 and (especially) 1974 samples.

of employment, or the level of educational achievement. A significant change was observed in the distribution of respondents among the various occupational categories in question 34. Most of the statistical significance is accounted for by differences of ten or fewer individuals in a number of categories, each one of which accounts for a very small percentage of the overall sample population. People holding nonprofessional, technical, or managerial positions accounted for 36% of the total sample in 1974. There was also a statistically significant redistribution of the stated religious preferences with a large increase in the number of people calling themselves Protestants and a decrease in the number of people responding as Roman Catholics.

The demographic data gathered in the survey indicate that the sample population is representative of the population of the Fairfax ASAP area. It should be noted, however, that Fairfax is far from being Anytown, U. S. A.: the population is notably wealthier and better educated than the national average.

Factual Knowledge of Intoxication

Eight items on the questionnaire dealt with factual knowledge of intoxication and the laws of Virginia relating to driving under the influence of alcohol. Responses to these items were combined to form the alcohol knowledge scale, which is intended to provide a single numerical description of the respondents' overall knowledge of these areas. Table 1 presents the mean scale values obtained in the 1973 and 1974 surveys.

Table 1

Knowledge Scale

<u>Year</u>	<u>Mean</u>	<u>S.D.</u>	<u>t/sig.</u>	<u>f/sig.</u>
1973	9.27	2.03	-.69	1.43
1974	9.37	2.42	N.S.	P<<.01

The t-test indicates that the small increase in 1974 was not statistically significant. The increase in the standard deviation was, however, significant. This increase indicates that the respondents of the 1974 sample showed greater variability in the amount of alcohol related knowledge. There is no readily available explanation for this finding (at least in terms of the questionnaire data), nor are the implications for the evaluation of the Fairfax PI & E campaign easily discernible.

Although the scale value indicates that there was no significant increase in the overall knowledge between 1973 and 1974, there were several changes in the pattern of response to individual questionnaire items. For example, in the 1974 survey, 262 respondents replied with estimates between 40% and 60% when asked the proportion of traffic deaths involving drunken drivers (question 3). (Responses to all questions are tabulated in Appendix B.) This compares with 261 in 1973. However, there was a tendency for the number of respondents giving a relatively low estimate to increase and the number of respondents giving a relatively high estimate to decrease.

Three of the items on the questionnaire dealt with knowledge of blood alcohol concentration. The number of respondents who gave a completely accurate description of the meaning of the term blood alcohol concentration (question 5) increased from 25 in 1973 to 45 in 1974. However, the number of respondents who gave an answer that was only partially correct decreased from 434 to 388, producing a net decrease in the number of respondents who gave a definition that was at least partially correct. In 1974, 114 of the 500 respondents accurately identified .10% blood alcohol concentration as the criterion for being legally drunk in this state. This is not a statistically significant increase. However, the number of respondents who simply had no idea what BAC level constituted the legal definition of drunkenness increased dramatically from 104 in 1973 to 174 in 1974. A correct answer was given to the question "How many drinks do you think you have to have to reach the level where you would be considered legally drunk?" (question 7), by 103 respondents in 1974 as opposed to 134 in 1973. This decline in the number of correct responses is matched by an increase in the number of respondents underestimating the number of drinks required. To the extent that a person's perception of his probable blood alcohol influences his willingness to drive after drinking, the underestimation of the number of drinks required to reach a dangerous BAC level on the part of the majority of the respondents should contribute to an increase in the public safety.

When asked to state the penalty for the first conviction of driving while intoxicated (DWI), 16% of the 1974 sample was able to state the penalty correctly. In 1973 only 6% of the sample was able to do this. The proportion of respondents underestimating the penalty was also considerably smaller in the 1974 sample (61% as opposed to 74%). When asked to identify the penalty for the first DWI conviction from a list of alternatives, 46% of the 1974 sample were able to do so. This is not significantly different from the percentage making a correct identification in 1973.

Questionnaire item 8 consisted of eleven true-false questions dealing with various aspects of drinking and intoxication. Two of these showed statistically significant increases in the number of correct answers between 1973 and 1974. The number of persons who agreed with the statement "A small person will get drunk faster than a large person on the same number of drinks" rose from 236 in 1973 to 279 in 1974. The number of persons who correctly disagreed with the statement "Strong black coffee is helpful in sobering a person up before he drives" increased from 192 in 1973 to 231 in 1974. The increased number of correct responses to these two items was partially counterbalanced by several small and statistically insignificant decreases in the number of correct responses to several other items. Overall, the number of correct responses to all questions rose from 3,665 (out of a possible 5,500) in 1973 to 3,727 in 1974. This is not a statistically significant increase.

In summary, the above discussion points to the conclusion that there was little improvement in public knowledge of intoxication and its relation to traffic safety, or of the laws of Virginia relating to driving while under the influence of alcohol.

Attitudes Concerning Drinking Drivers

Perception of Risks Attending Driving While Intoxicated

Mean scores on the perceived risk scale for 1973 and 1974 are shown in Table 2.

Table 2

Perceived Risk Scale

<u>Year</u>	<u>Mean</u>	<u>S.D.</u>	<u>t/sig.</u>	<u>f/sig.</u>
1973	14.91	3.33	.67	1.07
1974	14.77	3.44	N.S.	N.S.

Inspection of the table indicates that there was no significant change in the degree of risk associated with driving while under the influence of alcohol in the minds of the respondents.

In the 1974 sample, there was a marginally significant decrease (132 as opposed to 158 in 1974) in the number of people citing "driving under the influence" as the cause of the greatest number of automobile accidents. There was a significant increase (117 to 161) in the number of respondents who thought that their chances of being stopped by the police if they drove after drinking too much were either high or very high. In both 1973 and 1974 more than 60% of the respondents thought that their chances of committing a moving violation, being involved in an automobile

accident, or being involved in a very serious or fatal automobile accident after drinking too much were either high or very high. Inspection of the pattern of responses to these questions (see data tabulated in Appendix B2) reveals that the number of respondents answering "very high" was lower in 1974 than in 1973, but this was accompanied by a corresponding increase in the number of subjects responding "high".

Pearson product-moment correlations among all scale values were determined as part of the analysis.* There were small but statistically significant correlations between the score on the perceived risk scale and the scores on three of the other scales (these are reported in sections dealing with the other scales).

Attitude toward Rehabilitation

Mean values assumed by the attitude toward rehabilitation scale in 1973 and 1974 are presented in Table 3. In 1974 there was a small negative correlation ($r = .17$) between scores on this scale and scores on the perceived risk scale. Small positive correlations were observed between the rehabilitation attitude scale and the amount of driving an individual does ($r = .14$) and the amount of drinking he does ($r = .13$).

Table 3

Attitude toward Rehabilitation Scale

<u>Year</u>	<u>Mean</u>	<u>S.D.</u>	<u>t/sig.</u>	<u>f/sig.</u>
1973	11.38	2.18	-.91	1.10
1974	11.50	2.28	N.S.	N.S.

In 1974 there was no change in what respondents thought should happen to a driver convicted of driving while intoxicated (question 4a). When questioned as to what should happen to a driver upon his third DWI conviction (question 4b), there was a large increase in the number of respondents recommending fines (147 in 1974 as opposed to 97 in 1973), a decrease in the number recommending jail (90 as opposed to 113), and no change in the

*In view of the large number of subjects in this study, the criterion for accepting the statistical significance of a correlation was set at the .01 level.

number recommending medical treatment (134 vs. 138). Question 12 asks the respondents to rate the effectiveness of eight proposed countermeasures. Of the eight, only "a device which would prevent a drunken person starting a car" showed a clear change in public opinion. In 1974 respondents displayed much less faith in such a device; the number rating it as very effective decreased from 248 to 202 while the number rating it as not at all effective increased from 136 to 168. The rank ordering of the countermeasures in which the public evidenced most faith is presented in Table 4.

Table 4

Perceived Countermeasure Effectiveness

	<u>1974 Rank (%)</u>	<u>1973 Rank (%)</u>
More severe penalties	1 (60%)	1 (58%)
Stricter enforcement	2 (50%)	2 (50%)
Improved treatment services	3 (40%)	4 (44%)
Preemptive ignition interlocks	4 (40%)	3 (50%)

Note that the preemptive ignition interlock system, though declining in popularity, was still among the favorite solutions.

In summary, public perceptions of the risks involved in drinking and driving and public attitudes toward the drinking driver seemed to have been little affected during the third year of the ASAP PI & E campaign.

Behavioral MeasuresDriving

Seventeen of the questionnaire items require the respondent to describe his own behavior. Five of these relate to the amount driven and the number of accidents and traffic violations. Responses to these five items were combined to yield the three scales presented in Table 5.

The exposure scale is an index of the amount of driving the respondent did; the hazardous driving scale provides an index of the number of violations, citations, and accidents incurred. The high-mileage driver may have experienced more violations, citations or accidents simply because he was more often at risk. The driving risk scale is an attempt to factor differences in exposure out of the hazardous driving scale; it is obtained by dividing a respondent's hazardous driving score by his exposure score.

Table 5

Driving Scales

<u>Scale</u>	<u>Year</u>	<u>Mean</u>	<u>S.D.</u>	<u>t/sig.</u>	<u>f/sig.</u>
Exposure Scale	1973	8.65	2.19	2.10	1.08
	1974	8.35	2.27	p<.05	N.S.
Hazardous Driving Scale	1973	.42	.81	-.60	1.11
	1974	.45	.86	N.S.	N.S.
Driving Risk Scale	1973	.05	.09	-.74	1.28
	1974	.05	.10	N.S.	p<.01

The exposure scale indicates that the total amount of driving was down slightly in 1974. Such a trend is apparent in the answers to questions 13 and 15, but the changes are not large enough to achieve statistical significance until the responses are combined.

There was no significant change in the number of traffic accidents (question 17) and violations (questions 16 and 18). The fact that fewer than 20% of the respondents reported having had any tickets, accidents, or suspensions makes the hazardous driving scale subject to very large variation.

In 1974 there was no significant increase in the value of the driving risk scale: the significant difference in the variance is most likely an artifact, caused by the large variability of the hazardous driving scale, which is used in the computation of the driving risk scale.

Drinking

None of the questionnaire items relating to drinking habits (questions 19-24) showed a statistically significant change between the 1973 and 1974 surveys.

Driving While Intoxicated

The DWI scale reflects the fact that there was little overall change in behaviors relating to driving while under the influence of alcohol.

Table 6

DWI Scale

<u>Year</u>	<u>Mean</u>	<u>S.D.</u>	<u>t/sig.</u>	<u>f/sig.</u>
1973	3.01	3.07	-1.63	1.07
1974	3.37	3.18	N.S.	N.S.

The small increase in the DWI scale value for 1974 is attributed to a statistically significant increase in the proportion of respondents who reported that they "often" or "occasionally" drove after drinking (question 25), and a concomitant decrease in the number who responded "never" to the same question. There were no statistically significant changes in the patterns of response to any of the other items (questions 26-29a) relating to drinking and driving. It is of perhaps some relevance to note that the proportion of persons having second thoughts about what they were doing while driving under the influence of alcohol increased in 1974 (57% vs. 39% of the 1973 sample). This change fails to achieve statistical significance only because of the small portion of the total sample (20%) responding to the question.

The DWI scale correlates significantly with the knowledge scale ($r = .17$), the rehabilitation attitude scale ($r = .13$), and the hazardous driving scale ($r = .14$). These correlations indicate that those who drive while under the influence of alcohol at least occasionally tend to be a little more knowledgeable about alcohol and its effects, are somewhat more likely to be favorably disposed toward a rehabilitative approach to the drinking-driving problem, and are somewhat more likely to be involved in a traffic accident or be stopped for a moving violation. Not surprisingly, there is a negative correlation between the DWI scale and the perceived risk scale ($r = -.23$), which indicates a tendency to express a lower estimate of the hazards attendant on driving after drinking.

In summary, there was very little change in the driving or drinking behavior of the residents of Fairfax County between the 1973 and 1974 surveys. The most significant change noted was a

small increase in the proportion of respondents who reported that they often or occasionally drove after drinking.

Countermeasure Awareness

Four items on the survey (questions 9, 10, 10a, and 11) were directed to discovering the degree to which the public was aware of the existence of an anti-drunken-driving campaign. In 1974 there was a significant decrease in the number of respondents (236 vs. 311) who responded that they were aware of a campaign to reduce alcohol-related traffic deaths (question 9). Of those who had heard of such a campaign, significantly fewer (85 vs. 135) of the 1974 respondents mentioned TV as the source of their awareness. Thirty percent of the respondents who were aware of the existence of such a program mentioned ASAP as the sponsor.

Summary

Overall, the results of the 1974 Household Survey of the Fairfax Alcohol Safety Action Project indicated an unimpressive level of factual knowledge which had not increased significantly since the 1973 survey. There were virtually no meaningful shifts in the respondents' perceptions of the risks of driving while under the influence of alcohol or of their attitudes toward various measures proposed to counter the problem of the drinking driver. It should be noted that the attitude measures indicated a healthy appreciation of the risks involved in driving while under the influence of alcohol. Little change in behavior was noted except for an increase in the number of drivers who reported that they had at least occasionally driven after drinking.

Judging from the survey results, it must be concluded that the public information and education campaign during the year preceding the 1974 Household Survey was ineffectual in increasing the general level of alcohol related knowledge or in changing public attitudes toward the drinking driver, especially when compared with the results of the 1973 campaign.

The results of the 1974 survey may in part reflect a change in emphasis in the PI & E campaign in 1974.

At the end of 1973 the Fairfax ASAP was thought to be working well enough that several other Virginia localities were launching similar programs. The Quarterly Reports for late 1973⁽⁵⁾ and 1974⁽⁶⁻⁹⁾ suggest that much of the PI & E effort was directed toward assisting these other localities with their projects. Although this activity was undoubtedly worthwhile, the time and money expended could have little affect in the Fairfax area. The material in the Quarterly Reports also suggests that the majority of the

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PI & E effort was devoted to educating the public about the ASAP as a program, instead of educating it about the effects of alcohol and drunken driving.

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APPENDIX A

STONELAND RESEARCH
 #23-15 - HOUSEHOLD SURVEY
 1-2-3-4

 5-6-7

INTERVIEWER: DO NOT MARK THIS SHEET. RECORD ALL
 ANSWERS ON ANSWER SHEET.

8-4

9-1

1. Which one of these do you feel causes the greatest number of automobile accidents? Just read me the number. (Hand respondent card A with following answers.)
- 10-1 Unsafe highways or streets
 2 Failure to enforce laws
 3 Poor traffic laws
 4 Driving too fast
 5 Driving under the influence of alcohol
 6 Disregard for traffic regulations by drivers
 7 Disregard for traffic regulations by pedestrians
 8 Drivers and pedestrians who don't know the traffic regulations
 9 Something wrong with cars
 0 Drivers who handle a car poorly
2. Would you guess that more fatal accidents are caused by the many social drinkers (people that occasionally drink too much) or by the smaller number of problem drinkers (people who frequently drink a great deal)?
- 11-1 SOCIAL DRINKERS
 2 PROBLEM DRINKERS
 OTHER (specify)
 4 NO OPINION
3. Out of every 10 traffic deaths, how many would you say are caused by drinking drivers?
- | | |
|----------|--------------|
| 12-1 ONE | 7 SEVEN |
| 2 TWO | 8 EIGHT |
| 3 THREE | 9 NINE |
| 4 FOUR | 0 TEN |
| 5 FIVE | + NO OPINION |
| 6 SIX | |
4. What is the penalty in this state for first offense driving while intoxicated?
- 13-1 PENALTY STATED CORRECT
 2 PENALTY LESS SEVERE
 3 PENALTY MORE SEVERE THAN ACTUAL PENALTY

- 4a. What do you think should happen if a driver is convicted of driving while intoxicated? (may check more than one)

FIRST TIME

- 14-1 temporary license suspension
15-1 permanent license suspension
16-1 fine
17-1 jail sentence
18-1 require medical treatment

- 4b. What do you think should happen to a person convicted of driving while intoxicated for the THIRD TIME. (may check more than one)

- 19-1 temporary license suspension
20-1 permanent license suspension
21-1 fine
22-1 jail sentence
23-1 require medical treatment

- 4c. What do you think occurs at present upon the first conviction of driving while intoxicated? (may check more than one)

- 24-1 discretionary jail up to 12 months
25-1 discretionary fine up to \$200
26-1 discretionary 12 month revocation
27-1 mandatory 12 months revocation
28-1 permanent license suspension

- 4d. Indicate which phrase accurately describes your knowledge of the offense of impaired driving?

- 29-1 I have never heard of it.
 2 I have heard of it, but don't know anything about it.
 3 I have some knowledge of it.
 4 I have general knowledge of it.
 5 I am well informed on the subject.

5. What do you think the term Blood Alcohol Concentration or Blood Alcohol Level means?

- 30-1 RESPONDENT'S ANSWER COMPLETELY CORRECT
 2 RESPONDENT'S ANSWER CORRECT
 3 RESPONDENT'S ANSWER WRONG

6. The Blood Alcohol Concentration is based on a chemical test, such as a breath test, and is used to determine if a person is legally drunk or intoxicated. Which of these do you understand is the legal definition of being drunk in this state? (Hand respondent card B with following answers.)

- 31-1 ANY TRACE
 2 .05%
 3 .08%
 4 .10%
 5 .12%
 6 .15%
 7 .20%
 8 DON'T KNOW

7. How many drinks do you think you would have to have to reach the level where you would be considered legally drunk?

- | | |
|------------------|---------------|
| 32-1 ONE OR LESS | 7 SEVEN |
| 2 TWO | 8 EIGHT |
| 3 THREE | 9 NINE |
| 4 FOUR | 0 TEN or MORE |
| 5 FIVE | + DON'T KNOW |
| 6 SIX | |

8. Here is a list of statements about drinking and becoming intoxicated. Please read each statement and tell me if you think it is true or false. (hand respondent card C with the following statements)

	<u>True</u>	<u>False</u>	<u>Don't Know</u>
a. A younger person just starting to drink will get drunk faster than an older person on the same amount of liquor.	33-1	2	3
b. A person drinking on an empty stomach will get drunk faster on the same number of drinks than a person who has just eaten something.	34-1	2	3
c. If a person uses a "mixer", like soda water, with liquor, he can drink more without getting drunk than if he drank the liquor straight.	35-1	2	3
d. A small person will get drunk faster than a large person on the same number of drinks.	36-1	2	3

	<u>True</u>	<u>False</u>	<u>Don't Know</u>
e. A person who has had one drink should not be allowed to drive an automobile.	37-1	2	3
f. If a person sticks to the same kind of drink, he is less likely to get drunk than if he mixes different kinds of drinks, like beer and whiskey or gin and scotch.	38-1	2	3
g. A person who is used to drinking can drink more and not become drunk than a person who drinks only once in a while.	39-1	2	3
h. Alcohol is considered a drug.	40-1	2	3
i. Alcohol will affect a person faster if he's under medication like a tranquilizer or antidepressant.	41-1	2	3
j. Strong black coffee is helpful in sobering a person up before he drives.	42-1	2	3
k. Beer is pretty much like a soft drink as far as making a person drunk is concerned.	43-1	2	3
9. Have you read or heard of a campaign or program that would reduce alcohol-related traffic deaths?			
44-1 YES			
2 NO (if NO, skip to Question 12)			
10. Where did you read or hear about it?			
45-1 ANOTHER PERSON	50-6 BILLBOARD, ROAD SIGNS		
46-2 RADIO	51-7 PAMPHLET, LEAFLET		
47-3 TV	52-8 POSTERS IN BARS, TAVERNS		
48-4 MAGAZINE	53- OTHER (specify)		
49-5 NEWSPAPER			
10a. What did the campaign or program say? PROBE: Anything else?			54-
11. Do you recall what agency or organization is sponsoring the program?			55-
56-1 ASAP (local)			
OTHER (specify)			
3 CAN'T RECALL			

12. How effective do you think each of the following methods would be in reducing the drinking driving problem? Just give me the number on this card. (Hand respondent card D with effectiveness ratings.)
- a. Greater police enforcement of drunk driving laws _____ 57-
 - b. A large-scale public information and education campaign _____ 58-
 - c. Improved treatment services for problem drinkers _____ 59-
 - d. More severe penalties for convicted drunk drivers _____ 60-
 - e. Having convicted drunk drivers use a pill which causes them to be sick if they drink alcohol _____ 61-
 - f. Special alcohol-education courses for convicted drunk drivers _____ 62-
 - g. Police using random road checks to find drivers who have been drinking _____ 63-
 - h. A device that would prevent a drunk person from starting the car _____ 64-
13. About how many miles do you yourself drive in a year?

- 65-1 DON'T DRIVE (skip to Question 19)
- 2 LESS THAN 10,000
- 3 10,000 - 19,999
- 4 20,000 - 29,999
- 5 30,000 MILES OR MORE

(QUESTION 14 HAS BEEN DELETED)

15. In a typical week how many days do you drive?

- 67-7 EVERY DAY _____ 1-2
- 6 SIX DAYS _____ 2-3
- 5 FIVE DAYS _____ 3-1
- 4 FOUR DAYS _____ 4-5
- 3 THREE DAYS _____ 5-
- 2 TWO DAYS _____ 6-
- 1 ONE DAY _____ 7-
- 0 NONE IN A TYPICAL WEEK _____ 8-1
- _____ 9-2

16. How many tickets for driving violations have you had in the last 3 years, not counting parking violations?

10-
(RECORD #)

17. In the past 3 years, how many traffic accidents, no matter how minor, have you been involved in when you were driving a car?

11-
(RECORD #)

18. In the past 3 years, how many times has your driver's license been suspended, for any reason?

12-
(RECORD #)

19. Drinking is an accepted part of business and social activity for many people. Do you ever drink beer, wine, or liquor such as whiskey, gin, or vodka?

13-1 YES (if yes, skip to Question 22)
2 NO

20. Have you ever drunk beer, wine, or liquor?

14-1 YES
2 NO (if no, skip to Question 30)

21. How long ago did you last drink beer, wine, or liquor?

15-1 LESS THAN ONE MONTH
2 1-2 MONTHS
3 3 MONTHS TO 1 YEAR
4 MORE THAN 1 YEAR AGO

22. Which of these do you drink most often — beer, wine, or liquor?

16-1 BEER
2 WINE
3 LIQUOR

23. At the present time do you consider yourself to be a:

17-1 VERY LIGHT DRINKER
2 FAIRLY LIGHT DRINKER
3 MODERATE DRINKER
4 FAIRLY HEAVY DRINKER
5 HEAVY DRINKER

24. About how many days during this past week did you drink the number of drinks shown below? (By drink we mean a glass of wine, bottle or can of beer, or a single shot of liquor)? Just read me the number of days of each line. (Hand respondent card E with the following answers).

8 OR MORE DRINKS?	<u>18-</u>	LINE 1
5-7 DRINKS?	<u>19-</u>	LINE 2
3-4 DRINKS?	<u>20-</u>	LINE 3
1-2 DRINKS?	<u>21-</u>	LINE 4
NO DRINKS?	<u>22-</u>	LINE 5

INTERVIEWER: CHECK THAT DAYS TOTAL 7 DAYS

25. How often do you drive after having anything to drink? Would you say often? Would you say often, occasionally, hardly ever, or never?

23-1 OFTEN
 2 OCCASIONALLY (if choice is 1 or 2 go on to following questions)
 3 HARDLY EVER
 4 NEVER
 5 DON'T DRIVE (if choice is 3-5 skip to Question 30)

26. How much is the most you will drink and continue to drive?

24-1 ONE DRINK
 2 TWO DRINKS
 3 THREE DRINKS
 4 FOUR DRINKS
 5 FIVE DRINKS
 6 SIX DRINKS
 7 SEVEN DRINKS
 8 EIGHT DRINKS
 9 NINE DRINKS
 0 TEN OR MORE DRINKS

27. How far do you usually drive after drinking?

25-1 LESS THAN ONE MILE
 2 1-5 MILES
 3 6-10 MILES
 4 11-20 MILES
 5 OVER 20 MILES

28. When you've driven after drinking have you ever thought you really shouldn't be on the road?

- 26-1 Yes
2 No

29. Have you ever refused to drive or decided not to drive because you thought you had had too much to drink?

- 27-1 Yes
2 No (IF NO, SKIP TO QUESTION 30)

29a. If the answer to Question 29 was YES, was the refusal to drive because of: (Select the one most important reason of the three listed.)

- 28-1 Knowledge of laws
2 Fear of arrest
3 Fear of accident

29b. IF "YES" ON Q. 29, what other mode of transportation did you use?

- 29-1 Driven by friend or relative
2 Taxi
3 Bus
4 Walked
Other (WRITE IN "OTHER ANSWER" ABOVE Q.29b ON ANSWER SHEET)

30. The next few questions are about the chances of certain things happening to you.

a. If you drive after drinking too much, what do you think the chances are of your committing a moving traffic violation?

- | | |
|----------------------|--------------|
| 30-1 VERY HIGH | 4 LOW |
| 2 HIGH | 5 VERY LOW |
| 3 ABOUT EVEN (50-50) | 6 DON'T KNOW |

b. If you drive after drinking too much, what are your chances of being stopped by the police?

- | | |
|----------------------|--------------|
| 31-1 VERY HIGH | 4 LOW |
| 2 HIGH | 5 VERY LOW |
| 3 ABOUT EVEN (50-50) | 6 DON'T KNOW |

c. If you drive after drinking too much, what are your chances of being involved in an automobile accident?

- | | |
|----------------------|--------------|
| 32-1 VERY HIGH | 4 LOW |
| 2 HIGH | 5 VERY LOW |
| 3 ABOUT EVEN (50-50) | 6 DON'T KNOW |

- d. If you drive after drinking too much, what are your chances of being involved in a serious or fatal automobile accident?

- 33- 1 VERY HIGH
 2 HIGH
 3 ABOUT EVEN (50-50)
 4 LOW
 5 VERY LOW
 6 DON'T KNOW

Hand respondent card F ("Activation" question).

31. Please read me the number opposite any of the things listed that you have done in the last two or three years.

- 34 -1 Presented my views to a public officeholder or legislator
 35 -2 Written a letter to the editor
 36 -3 Urged someone out of my family to get out and vote
 37 -4 Urged someone to get in touch with a public officeholder or legislator
 38 -5 Made a speech before an organized group
 39 -6 Been elected an officer of an organization
 40 -7 Run for public office
 41 -8 Taken an active part in a political campaign
 42 -9 Helped on fund raising drives
 43 -0 Voted in the last two elections
 44 -+ None

- 31A. Have you ever taken:

- | | | |
|---------------------------------------|----------|------|
| a. In class driver education? | 45-1 YES | 2 NO |
| b. Behind the wheel driver education? | 46-1 YES | 2 NO |

THESE NEXT QUESTIONS ARE FOR STATISTICAL PURPOSES ONLY

32. What is the highest grade in school you completed?

- 68-1 LESS THAN 8TH GRADE
 2 8TH GRADE
 3 HIGH SCHOOL - INCOMPLETE
 4 HIGH SCHOOL COMPLETED
 5 COLLEGE - INCOMPLETE
 6 COLLEGE COMPLETED
 7 GRADUATE WORK

Hand respondent card G-1

33. Which of these best describes your status at the present time?

- 69- 1 EMPLOYED FULL TIME
- 2 EMPLOYED PART TIME
- 3 UNEMPLOYED
- 4 HOUSEWIFE
- 5 STUDENT
- 6 RETIRED

Hand respondent card G-2

34. Which occupation most nearly describes your present work?

- 70- 1 PROFESSIONAL, TECHNICAL, MANAGERIAL
- 2 CLERICAL AND SALES
- 3 SERVICE OCCUPATION
- 4 FARMING, FISHERY, FORESTRY
- 5 PROCESSING OCCUPATION, MACHINE TRADE, BENCH WORK
- 6 MILITARY
- 7 STRUCTURE WORK
- 8 RETIRED
- 9 HOUSEWIFE
- 0 STUDENT

Hand respondent card G-3

35. Within which of the following income groups do you fall?

- 71- 1 0-\$5,000
- 2 \$5,000-\$10,000
- 3 \$10,000-\$15,000
- 4 \$15,000-\$20,000
- 5 \$20,000 AND UP

36. Are you married, single, divorced, or widowed?

- 72- 1 MARRIED
- 2 SINGLE
- 3 DIVORCED
- 4 WIDOWED
- OTHER (specify)

37. What is your religious preference?

- 73- 1 PROTESTANT
- 2 ROMAN CATHOLIC
- 3 JEWISH
- OTHER (specify)
- 5 NONE

38. Race (INTERVIEWER: OBSERVE AND RECORD)

- 74-1 WHITE
- 2 BLACK
- 3 ORIENTAL
- 4 LATIN
- 5 AMERICAN INDIAN
- OTHER (specify)

Hand respondent card H.

39. Which of these comes closest to your weight? Just give the number. (INTERVIEWER: ESTIMATE IF NECESSARY)

- 75-1 Less Than 100 LBS.
- 2 100-119 LBS.
- 3 120-139 LBS.
- 4 140-159 LBS.
- 5 160-179 LBS.
- 6 180-199 LBS.
- 7 200-219 LBS.
- 8 220-239 LBS.
- 9 240 LBS. OR MORE

40. During the past four years, how many times have you moved from one address to another?

- 76-1 ONE MOVE
- 2 TWO MOVES
- 3 THREE MOVES OR MORE
- 4 NO MOVE - AT SAME ADDRESS DURING PAST FOUR YEARS

41. If any moves in the past four years, how many of these moves were from one county to another?

- 78-1 ONE
- 2 TWO
- 3 THREE OR MORE
- 4 NONE
- 5 DON'T KNOW

42. In what 10-year age group do you fall?

- 79-1 UNDER 20
- 2 20-29
- 3 30-39
- 4 40-49
- 5 50-59
- 6 60 OR OVER

43. Sex (INTERVIEWER: OBSERVE AND RECORD)

- 80-1 MALE
- 2 FEMALE

44. How often do you dine out, other than routine work or school lunches?

- 47-1 At least once per week
- 2 Every two to four weeks
- 3 Every month or so
- 4 Seldom or never

45. How often do you entertain small groups of friends at home?

- 48-1 Often
- 2 Seldom or never

46. Do you belong to any of the following types of organizations?

	<u>YES:</u>	<u>NO:</u>
Golf, country, swim, or similar clubs	49-1	2
Lodges or fraternal organizations	50-1	2
Civic clubs (Lions, Rotary, etc.)	51-1	2

47. How many cars are owned in your household?

- 52-1 None
- 2 One
- 3 Two
- 4 Three or more

48. Which of the following do you own?

- 53-1 Boat
- 54-2 Airplane
- 55-3 Camper
- 56-4 Vacation home

49. How many nights per month, on the average, would you say that you are away from home for purposes other than work — include social engagements, lodge, civic, and religious activities.

- 57-1 None
- 2 One
- 3 Two
- 4 Three or Four
- 5 Five or six
- 6 Seven or eight
- 7 Nine or more

50a. Do you ever smoke cigarettes?

- 58-1 Yes
- 2 No (If no, skip to Question 51)

50b. IF YES on Question 50a.: How many packs per day?

- 59-1 Less than one
- 2 One
- 3 Two
- 4 More than two

51. On an average day, how much time do you spend with each of these activities?

	<u>Less than one hour</u>	<u>1-2 hours</u>	<u>3-4 hours</u>	<u>More than four hours</u>
Watching television	60-1	2	3	4
Listening to radio	61-1	2	3	4
Reading newspapers	62-1	2	3	4

52. How many times have you been to a movie at an indoor or drive-in theater during the past three months?

- 63-1 None
- 2 Once
- 3 2-3 times
- 4 4-5 times
- 5 6 or more

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APPENDIX B1

Demographic Data from 1973 and 1974 Household Surveys

Sex was a controlled variable in the Household Surveys. In 1973 there were 249 men and 251 women responding. In 1974 there were 250 men and 250 women.

Table D1

Employment (Q33)*

	<u>1973</u>	<u>1974</u>
1). Full-time	254 (51%)	241 (48%)
2). Part-time	29 (6%)	49 (10%)
3). Unemployed	5 (1%)	4 (1%)
4). Housewife	152 (30%)	130 (26%)
5). Student	33 (7%)	38 (8%)

N.S.**

*The number in parentheses refers to the numbered item on the questionnaire.

**Statistics are not reported unless significant at the $P < .05$ level.

There were no significant changes in the overall employment picture between the 1973 and 1974 surveys. The only remarkable feature of these data is the low rate of unemployment reported in both years.

Table D2

Education (Q32)

<u>Highest grade completed</u>	<u>1973</u>	<u>1974</u>
1). Less than 8th grade	8 (2%)	7 (1%)
2). 8th grade complete	6 (1%)	6 (1%)
3). High school incomplete	61 (12%)	69 (14%)
4). High school complete	138 (28%)	127 (25%)
5). College incomplete	114 (23%)	122 (24%)
6). College graduate	103 (21%)	100 (21%)
7). Graduate work	70 (14%)	63 (13%)

N.S.

There was no change whatsoever in the educational composition of the survey samples between 1973 and 1974. The Fairfax population is itself remarkable for the high overall level of educational achievement.

Table D3
Occupation (Q34)

	<u>1973</u>	<u>1974</u>
1). Professional, Technical, Managerial	176 (35%)	180 (36%)
2). Clerical & Sales	44 (7%)	41 (8%)
3). Service Occupations	29 (6%)	33 (7%)
4). Farming, Fishery, Forestry	3 (1%)	0 (0%)
5). Processing, Machine Work	4 (1%)	14 (3%)
6). Military	31 (6%)	18 (4%)
7). Structural	5 (1%)	11 (2%)
8). Retired	24 (5%)	32 (6%)
9). Housewife	152 (30%)	133 (27%)
10). Student	32 (6%)	38 (8%)

$$\chi^2=17.59, P<.05$$

A statistically significant change was observed in the occupational mix of the sample between 1973 and 1974. Most of the change was accounted for by a decrease in the number of women reporting themselves as housewives, an increase in the number of retired persons, and a decrease in the number of military personnel in the 1974 sample.

Table D4
Income (Q35)

	<u>1973</u>	<u>1974</u>
1). \$0 - \$5,000	52 (11%)	6 (1%)
2). \$5,000 - \$10,000	59 (12%)	39 (8%)
3). \$10,000 - \$15,000	87 (17%)	83 (17%)
4). \$15,000 - \$20,000	79 (16%)	108 (22%)
5). \$20,000 and above	203 (41%)	248 (50%)
6). no response	14 (3%)	16 (3%)

$$\text{category 1-5 } \chi^2=54.45, P<<.01$$

Respondents in the 1974 sample reported significantly higher income than did respondents in 1973. Most of this change can be accounted for by the great decrease in the number of people reporting an income of less than \$5,000 and a large increase in the number of people reporting an income of greater than \$20,000.

Table D5

Age (Q42)

	<u>1973</u>	<u>1974</u>
1). 16 - 19	38 (8%)	42 (8%)
2). 20 - 29	83 (17%)	68 (14%)
3). 30 - 39	122 (24%)	114 (23%)
4). 40 - 49	133 (27%)	119 (24%)
5). 50 - 59	91 (18%)	98 (20%)
6). 60 and over	33 (7%)	58 (12%)

N.S.

There was no statistically reliable difference between the 1973 and 1974 samples with respect to the ages of the respondents.

Table D6

Race (Q38)

	<u>1973</u>	<u>1974</u>
1). White	481 (96%)	438 (98%)
2). Black	11 (2%)	6 (1%)
3). Oriental	3 (1%)	5 (1%)
4). Latin	1 (0%)	1 (0%)
5). American Indian	1 (0%)	0 (0%)
6). Other	0 (0%)	0 (0%)

N.S.

There were no statistically significant differences between the 1973 and 1974 samples as regards race.

Table D7

Religion (Q37)

	<u>1973</u>	<u>1974</u>
1). Protestant	313 (63%)	346 (69%)
2). Roman Catholic	141 (28%)	107 (21%)
3). Jewish	5 (1%)	3 (1%)
4). Other	4 (1%)	3 (1%)
5). None	36 (7%)	40 (8%)

categories 1-2 $\chi^2=6.31$, $P<.05$

There was a significant increase in the number of Protestants and a significant decrease in the number of persons responding as Roman Catholics in the sample for 1974 as compared to that for 1973.

Table D8

Marital Status (Q36)

	<u>1973</u>	<u>1974</u>
1). Married	416 (83%)	398 (80%)
2). Single	56 (11%)	72 (14%)
3). Divorced	11 (2%)	12 (2%)
4). Widowed	16 (3%)	16 (3%)
5). Other	1 (0%)	2 (0%)

N.S.

There was no difference between the 1973 and 1974 samples as regards marital status.

Table D9

Weight (Q39)

	<u>1973</u>	<u>1974</u>
1). Less than 100 lb.	12 (2%)	7 (1%)
2). 100 - 119 lb.	69 (14%)	62 (12%)
3). 120 - 139 lb.	105 (21 %)	105 (21%)
4). 140 - 159 lb.	97 (19%)	118 (24%)
5). 160 - 179 lb.	110 (22%)	111 (22%)
6). 180 - 199 lb.	72 (14%)	67 (13%)
7). 200 - 219 lb.	22 (4%)	23 (5%)
8). 220 - 249 lb.	8 (2%)	4 (1%)
9). greater than 240 lb.	5 (1%)	3 (1%)

N.S.

Table D10

Moves in Last 4 Years (Q40)

	<u>1973</u>	<u>1974</u>
1). Not moved	272 (54%)	284 (57%)
2). 1	106 (21%)	115 (23%)
3). 2	54 (11%)	45 (9%)
4). 3 or more	68 (14%)	54 (11%)

N.S.

Table D11

Inter-county Moves in Last 4 Years (Q41)

	<u>1973</u>	<u>1974</u>
1). None	329 (66%)	343 (69%)
2). 1	94 (19%)	93 (19%)
3). 2	32 (6%)	35 (7%)
4). 3 or more	45 (9%)	29 (6%)
		N.S.

Table D12

Membership in Organizations (Q46)

<u>Type of Organization</u>	<u>1973</u>	<u>1974</u>
A). Golf, Country or Swim Club	190 (38%)	187 (37%)
B). Lodge or Fraternal Organization	83 (17%)	83 (17%)
C). Civic Club	100 (20%)	84 (17%)
		N.S.

Table D13

Active Citizenship Activities (Q31)

<u>Activity</u>	<u>1973</u>	<u>1974</u>
1). Presented Views to Legislator	95 (19%)	99 (20%)
2). Written to Editor	39 (8%)	28 (6%)
3). Urged Another to Vote	234 (47%)	215 (43%)
4). Urged Another to Write his Legislator	136 (27%)	108 (22%)*
5). Spoken before an Organized Group	104 (21%)	89 (18%)
6). Been Elected Officer of Organization	100 (20%)	78 (16%)
7). Run for Public Office	3 (1%)	2 (0%)
8). Been Active in a Political Campaign	57 (11%)	31 (6%)**
9). Assisted in Fund-raising Activities	160 (32%)	141 (28%)
10). Voted in Last 2 Elections	332 (66%)	314 (63%)
11). None of the Above	84 (17%)	110 (22%***)

* $\chi^2=4.25$, $P<.05$ ** $\chi^2=8.42$, $P<.01$ *** $\chi^2=4.32$, $P<.05$

Three items on this table yield statistically significant changes between 1973 and 1974. There was a decrease in the number of people who urged another to write their legislator, there was a decrease in the number of people active in a political campaign, and there was an increase in the number of people who reported that they had engaged in none of the activities on the table. All of these changes are tentatively attributed to the fact that the 1974 questionnaire was administered following an off political election year.

Table D14

Number of Autos in Household (Q47)

	<u>1973</u>	<u>1974</u>
1). None	10 (2%)	8 (2%)
2). 1	121 (24%)	140 (28%)
3). 2	261 (52%)	242 (48%)
4). 3 or more	99 (20%)	104 (21%)
5). No response	9 (2%)	6 (1%)

N.S.

Table D15

Driver Education (Q31)

	<u>1973</u>	<u>1974</u>
A). In-class Driver-Ed	168 (34%)	152 (30%)
B). Behind-the-wheel	162 (32%)	171 (34%)

N.S.

The number of persons reporting some form of driver education was gratifyingly high in view of the rather high mean age of the respondents in this survey.

Table D16

Leisure Time Investments (Q48)

	<u>1973</u>	<u>1974</u>
1). Boat	56 (11%)	60 (12%)
2). Airplane	2 (0%)	5 (1%)
3). Camper	49 (10%)	51 (10%)
4). Vacation Home	39 (8%)	25 (5%)

N.S.

Table D17

Frequency of Dining Out (Q44)

	<u>1973</u>	<u>1974</u>
1). Seldom or Never	90 (18%)	75 (15%)
2). At least once a week	177 (35%)	163 (33%)
3). Every two to four weeks	137 (27%)	153 (31%)
4). Every month or so	96 (19%)	109 (22%)

N.S.

Table D18

Entertaining at Home (Q45)

	<u>1973</u>	<u>1974</u>
1). Often	180 (38%)	206 (41%)
2). Seldom or never	312 (62%)	294 (59%)
		N.S.

Table D19

Evenings Away From Home (Q49)

Evenings per month away from home

<u>Year</u>	0	1	2	3-4	5-6	7-8	9 or more
1973	90 (13%)	82 (16%)	67 (13%)	88 (18%)	47 (9%)	47 (9%)	79 (16%)
1974	75 (15%)	72 (14%)	81 (16%)	110 (22%)	43 (9%)	32 (6%)	87 (12%)
							N.S.

Table D20

Motion Picture Attendance (Q52)

Number of times at movies in last three months

<u>Year</u>	0	1	2-3	4-5	6 or more
1973	273 (55%)	89 (18%)	85 (17%)	30 (6%)	22 (4%)
1974	270 (54%)	108 (22%)	85 (17%)	21 (4%)	16 (3%)
					N.S.

Table D21

Smoking (Q50)

	<u>1973</u>	<u>1974</u>
A). Do you smoke? (Yes)	190 (38%)	202 (40%)
B). If yes, how much?		
1). Less than a pack a day	60 (12%)	68 (14%)
2). One pack a day	94 (19%)	94 (19%)
3). Two packs a day	26 (5%)	37 (7%)
4). More than two packs a day	8 (2%)	8 (2%)
		N.S.

Table D22

Media Exposure (Q51)

		<u>Hours per Day</u>				
		<u>Year</u>	less than 1	1-2	3-4	4 or more
A).	Watching T.V.	1973	119 (24%)	219 (44%)	100 (20%)	62 (12%)
		1974	102 (22%)	205 (41%)	122 (24%)	64 (13%)
B).	Listening to Radio	1973	178 (36%)	183 (37%)	40 (8%)	99 (20%)
		1974	202 (40%)	158 (32%)	46 (9%)	94 (19%)
C).	Reading Newspapers	1973	261 (52%)	225 (45%)	10 (2%)	4 (1%)
		1974	279 (56%)	215 (43%)	6 (1%)	0 (0%)

N.S.

APPENDIX B2

Questionnaire Responses Related to Factual Knowledge of
Drinking and Intoxication

Table K1

Drivers Who Cause More Fatal Accidents (Q2)

<u>Answer</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1) Social drinkers	285 (57%)	216 (43%)	233 (46%)	256 (51%)
2) Problem drinkers*	129 (36%)	237 (47%)	223 (45%)	203 (41%)
3) Other	18 (4%)	10 (2%)	4 (1%)	8 (2%)
4) No response	18 (4%)	37 (7%)	40 (8%)	33 (7%)

N.S.**

*The correct response is starred throughout the Knowledge section.
**Throughout this report, only differences between 1973 and 1974 are subject to statistical analysis.

For analysis the 1973 and 1974 data were collapsed into two broad categories. The first category was correct answers, A 2 X 2 chi-square revealed no significant differences between 1973 and 1974 responses. An analysis by Robert F. Jordan⁽³⁾ in 1974 showed that there was a significant increase in the number of correct responses between 1971, the baseline year, and 1973. The 1974 data show a small tendency to reverse these gains, falling about halfway between the 1971 and 1973 data.

Table K2

Traffic Deaths Caused by Drinking Drivers (Q3)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1) One in ten	16 (3%)	19 (4%)	19 (4%)	19 (4%)
2) Two in ten	27 (5%)	26 (5%)	26 (5%)	32 (6%)
3) Three in ten	72 (14%)	55 (11%)	47 (9%)	59 (12%)
4) Four in ten*	80 (10%)	66 (13%)	58 (12%)	65 (13%)
5) Five in ten*	128 (26%)	156 (31%)	131 (26%)	154 (31%)
6) Six in ten*	64 (13%)	58 (12%)	72 (15%)	43 (9%)
7) Seven in ten	41 (8%)	38 (8%)	56 (11%)	40 (8%)
8) Eight to ten in ten	33 (7%)	21 (4%)	41 (8%)	37 (7%)
9) No opinion	39 (8%)	60 (12%)	50 (10%)	51 (10%)

 $\chi^2=14.42$, $P<.05$

The range of correct responses is based upon data from the U. S. Department of Transportation, the Highway Safety Division of Virginia, and the Virginia Department of Health. Inspection of the table reveals that there was no change in the number of

respondents giving an acceptable answer (262 in 1974 as opposed to 261 in 1973). The statistical significance reported seems to be the result of two trends: (1) a general lowering of the estimates, and (2) a tendency to respond with five, which is the center of the scale (category 8 "eight to ten" is obtained by combining separate responses for eight, nine, and ten, which appear on the data sheet).

Table K3

State the Penalty for the First DWI Conviction (Q4)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Penalty stated correctly	41 (8%)	39 (8%)	31 (6%)	80 (16%)
2). Penalty less severe	300 (60%)	290 (58%)	371 (74%)	305 (61%)
3). Penalty more severe	53 (11%)	46 (9%)	13 (3%)	16 (3%)
4). No response	106 (21%)	125 (25%)	85 (17%)	99 (20%)

$$\chi^2=29.45; P<<.0$$

Inspection of the table reveals a healthy increase in the number of people stating the penalty correctly, and the concomitant decrease in the number of people who underestimated the penalty.

Table K4

Recognition of Penalty for First DWI Conviction (Q4c)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Discretionary jail	57 (11%)	90 (18%)	45 (9%)	47 (9%)
2). Discretionary fine	268 (54%)	260 (52%)	232 (40%)	262 (52%)
3). Discretionary revocation*	189 (38%)	187 (37%)	224 (45%)	231 (46%)
4). Mandatory revocation	56 (11%)	81 (16%)	47 (9%)	58 (11%)
5). Permanent suspension	15 (3%)	12 (2%)	6 (1%)	2 (0%)

N.S.

Table K4 reveals no significant differences between 1973 and 1974 patterns of response. [The large increase in category 2 is masked by the stability of the other categories when chi-square is computed for categories 1-4.]

Table K7

BAC Level for Legally Drunk (Q6)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Any trace	9 (2%)	12 (2%)	3 (1%)	4 (1%)
2). .05%	83 (14%)	75 (15%)	106 (21%)	77 (16%)
3). .08%	76 (15%)	70 (14%)	86 (17%)	65 (13%)
4). .10%*	69 (14%)	100 (20%)	101 (20%)	114 (23%)
5). .12%	48 (10%)	31 (6%)	49 (10%)	28 (6%)
6). .15%	58 (11%)	39 (8%)	35 (7%)	26 (5%)
7). .20%	13 (3%)	14 (3%)	16 (3%)	12 (2%)
8). Don't know	144 (29%)	159 (32%)	104 (21%)	174 (35%)

$\chi^2=33.70$, $P \ll .01$
for categories 1-7, $\chi^2=9.37$, N.S.

Inspection of this table shows a slight increase in the number of correct answers, going from 101 in 1973 to 114 in 1974. This change is not statistically significant, however. The significant change between 1973 and 1974 is a very large increase in the number of respondents in the "don't know" category. It is of some interest to note that the 1974 data more closely resemble the 1972 data than they do the 1973 data.

Table K8

Number of Drinks Required to Induce Drunkenness (Q7)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). One or fewer	44 (9%)	30 (6%)	30 (6%)	36 (7%)
2). Two	72 (14%)	72 (14%)	82 (17%)	75 (15%)
3). Three	114 (23%)	146 (29%)	133 (27%)	169 (34%)
4). Four*	68 (14%)	70 (14%)	71 (14%)	68 (14%)
5). Five*	44 (9%)	47 (10%)	36 (7%)	24 (5%)
6). Six*	21 (4%)	23 (5%)	27 (5%)	11 (2%)
7). Seven or eight	21 (4%)	7 (1%)	5 (1%)	10 (2%)
8). Nine or more	17 (4%)	8 (2%)	12 (2%)	7 (1%)
9). Don't know	99 (19%)	97 (19%)	104 (21%)	100 (20%)

$\chi^2=17.41$, $P < .05$

The large increase in the number of respondents answering three was responsible for most of the chi-square value. In 1974, 103 (21%) respondents answered in the correct range as opposed to 134 in 1973. It is of interest that 280 respondents underestimated the number of drinks required to reach a BAC level that would be considered legally drunk.

Table K9
 True-False Questions about Drinking and Intoxication (Q8a-k)

<u>Abbreviated Statement</u>	<u>Correct Response</u>		<u>Significance</u>	<u>Change</u>
	1973	1974		
a). Young novice drinkers drunk faster	(T) 334 (67%)	315 (63%)	N.S.	No change
b). Drunk faster on an empty stomach	(T) 450 (90%)	446 (89%)	N.S.	No change
c). Can drink more safely if use "mixer"	(F) 275 (55%)	266 (53%)	N.S.	No change
d). Small person drunk faster than large	(T) 236 (47%)	279 (56%)	P<.01*	Increase
e). Shouldn't drive after one drink	(F) 386 (77%)	387 (77%)	N.S.	No change
f). Can drink more if don't mix drinks	(F) 239 (48%)	258 (52%)	N.S.	No change
g). Experienced drinkers have higher capacity	(F) 225 (45%)	218 (44%)	N.S.	No change
h). Alcohol is considered a drug	(T) 378 (76%)	377 (75%)	N.S.	No change
i). Medication increases effect of alcohol	(T) 470 (94%)	465 (93%)	N.S.	No change
j). Coffee helps sober a person	(F) 192 (38%)	231 (46%)	P<<.05**	Increase
k). Beer is like a soft drink	(F) 480 (96%)	480 (96%)	N.S.	No change
Question a-k	3665 (67%)	3722 (68%)	N.S.	No change

*d: $\chi^2=7.40$, $P<.01$
 **j: $\chi^2=6.23$, $P<<.05$

Two of the eleven true-false questions showed a statistically significant increase in the number of people giving correct responses, and the total number of correct responses was up slightly but not significantly in 1974.

APPENDIX B3

Attitudes Concerning Traffic Accidents and Drinking Drivers

Table A1

Cause of Greatest Number of Accidents (Q1)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Unsafe highways	13 (3%)	18 (4%)	18 (4%)	19 (4%)
2). Failure to enforce laws	7 (1%)	19 (4%)	15 (3%)	7 (1%)
3). Driving too fast	107 (21%)	93 (19%)	108 (21%)	122 (24%)
4). Driving while drunk	147 (29%)	146 (29%)	158 (32%)	132 (26%)*
5). Disregard for regulations	142 (28%)	137 (27%)	111 (22%)	135 (27%)
6). Drivers who handle a car poorly	72 (15%)	68 (14%)	75 (15%)	73 (15%)
7). Other replies	9 (2%)	14 (2%)	12 (2%)	12 (2%)
8). No answer	3 (1%)	5 (1%)	3 (1%)	0 (0%)

N.S.
* $\chi^2=3.28$, $P<.10$

A 2 X 7 chi-square, years by categories, indicated that there was no significant change in the overall pattern of responding. Inspection of the table reveals that the number of persons who chose driving while drunk (Item 4) in 1974 was 36 fewer than the number who chose that response in 1973. If this one category is considered alone in relation to all the other responses, a chi-square significant at the .10 level is achieved. It should be noted also that the pattern of responses in 1974 did not differ in any way from the pattern of responses in 1971, the year the baseline data were collected.

Table A2

Chances of Committing a Moving Violation if DWI (Q30a)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Very high	156 (31%)	186 (37%)	225 (45%)	174 (36%)
2). High	168 (34%)	136 (27%)	162 (32%)	198 (40%)
3). About even	83 (17%)	93 (19%)	82 (16%)	72 (15%)
4). Low	33 (7%)	29 (6%)	18 (4%)	26 (5%)
5). Very low	18 (4%)	32 (6%)	9 (2%)	19 (4%)
6). Don't know	42 (8%)	24 (5%)	4 (1%)	1 (0%)

$\chi^2=16,36$, $P<.01$

Inspection of the table reveals that most of the value of the chi-square can be accounted for by a shift in the responses from the very high category into the high category. If these two categories are combined into one general category of high perceived risk, there is no important difference between the responses in 1973 and 1974.

Table A3

Chance of Being Stopped by Police if DWI (Q30b)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Very high	42 (8%)	64 (13%)	49 (10%)	44 (9%)
2). High	101 (20%)	72 (14%)	68 (14%)	117 (24%)
3). About even	166 (33%)	168 (34%)	193 (39%)	198 (41%)
4). Low	94 (19%)	100 (20%)	95 (19%)	81 (17%)
5). Very low	63 (13%)	69 (14%)	83 (16%)	48 (10%)
6). Don't know	34 (7%)	27 (5%)	12 (2%)	12 (2%)

$$\chi^2=23.78, P<.01$$

Table A4

Chances of Having an Accident if DWI (Q30c)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Very high	109 (22%)	145 (29%)	153 (31%)	115 (23%)
2). High	182 (37%)	155 (31%)	190 (38%)	219 (45%)
3). About even	101 (20%)	115 (23%)	105 (21%)	108 (22%)
4). Low	92 (8%)	33 (7%)	33 (7%)	38 (8%)
5). Very low	24 (5%)	25 (5%)	11 (2%)	12 (2%)
6). Don't know	42 (8%)	27 (5%)	8 (2%)	8 (2%)

$$\chi^2=7.88, P<.10$$

Though there was some redistribution of the responses between 1973 and 1974, the overall number in the categories high and very high remained approximately the same.

Table A5

Chance of a Serious or Fatal Accident if DWI (Q30d)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Very high	81 (16%)	116 (23%)	140 (28%)	95 (19%)
2). High	64 (33%)	150 (30%)	169 (34%)	200 (40%)
3). About even	92 (18%)	96 (19%)	109 (22%)	122 (24%)
4). Low	58 (12%)	57 (11%)	45 (9%)	47 (9%)
5). Very low	52 (10%)	43 (9%)	22 (4%)	25 (5%)
6). Don't know	53 (11%)	38 (8%)	15 (3%)	11 (2%)

$$\chi^2=12.16, P<.05$$

If categories 1 and 2 are again collapsed into one category of perceived high risk, there was no difference in the responses between 1973 and 1974.

Table A6

What Should Happen if DWI (Q4a)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Temporary suspension	390 (78%)	346 (69%)	384 (72%)	387 (77%)
2). Permanent suspension	27 (5%)	25 (5%)	17 (3%)	5 (1%)
3). Fine	214 (43%)	211 (42%)	155 (31%)	177 (35%)
4). Jail sentence	36 (7%)	30 (6%)	30 (6%)	19 (4%)
5). Medical treatment	54 (11%)	97 (19%)	81 (16%)	73 (15%)

N.S.

Note: Respondents may choose more than one reply. A 2 X 2 chi square was computed for each category separately (checked response vs. unchecked by year): none was significant at the .05 level.

Table A7

What Should Happen on Third DWI Conviction (Q4b)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Temporary suspension	93 (19%)	123 (25%)	110 (22%)	119 (24%)
2). Permanent suspension	364 (73%)	268 (54%)	311 (62%)	303 (61%)
3). Fine	167 (33%)	142 (28%)	97 (19%)	145 (29%)*
4). Jail sentence	129 (26%)	112 (22%)	113 (23%)	90 (18%)**
5). Medical treatment	133 (27%)	162 (32%)	138 (28%)	139 (28%)

* $\chi^2=12.56$, $P<<.01$ ** $\chi^2=2.99$, $P<.10$

Note: Respondents may choose more than one reply. Responses to this question were analyzed in the same manner as the responses to Question 4a. If the responses in 1974 are compared to the baseline data gathered in 1971, a marked decrease in punitiveness is evident. Note, however, that there was no difference in the number of people choosing medical treatment in 1974 after three years of the ASAP campaign.

Table A8

Perceived Effectiveness of DWI Countermeasures (Q12)

<u>Countermeasure</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>Significance</u>
a. Greater police enforcement of the drunk driving laws					
1. Very effective	257(52%)	275(55%)	251(50%)	251(50%)	
2. Fairly effective	200(40%)	198(40%)	210(43%)	210(43%)	
3. Not effective	41(8%)	26(5%)	37(7%)	37(7%)	N.S.
b. A large-scale public information and education campaign					
1. Very effective	184(37%)	168(34%)	144(29%)	134(27%)	
2. Fairly effective	224(45%)	256(51%)	281(56%)	274(55%)	
3. Not effective	90(18%)	75(15%)	72(14%)	90(18%)	N.S.
c. Improved treatment services for problem drinkers					
1. Very effective	207(42%)	236(47%)	221(44%)	202(40%)	
2. Fairly effective	202(40%)	207(41%)	227(46%)	222(44%)	$\chi^2=5.63$
3. Not effective	89(18%)	57(12%)	49(10%)	73(15%)	P<.10
d. More severe penalties for convicted drunken drivers					
1. Very effective	287(58%)	310(62%)	290(58%)	299(60%)	
2. Fairly effective	149(30%)	143(29%)	156(32%)	138(28%)	
3. Not effective	62(12%)	45(9%)	51(10%)	60(12%)	N.S.
e. Having convicted drunk drivers use a sickness pill					
1. Very effective	96(20%)	112(22%)	91(18%)	94(19%)	
2. Fairly effective	92(18%)	119(24%)	133(27%)	129(26%)	
3. Not effective	310(62%)	267(54%)	271(54%)	273(55%)	N.S.
f. Special alcohol education courses for convicted drunk drivers					
1. Very effective	152(30%)	164(33%)	184(37%)	169(34%)	
2. Fairly effective	254(52%)	258(52%)	257(52%)	269(54%)	
3. Not effective	92(18%)	78(15%)	55(11%)	60(12%)	N.S.
g. Police using random road checks to find drinking drivers					
1. Very effective	145(30%)	179(36%)	178(36%)	172(34%)	
2. Fairly effective	221(44%)	226(45%)	228(46%)	255(51%)	$\chi^2=4.89$
3. Not effective	132(26%)	94(19%)	92(18%)	69(14%)	P<.10
h. A device that would prevent a drunk from starting a car					
1. Very effective	258(52%)	280(56%)	248(50%)	202(40%)	
2. Fairly effective	111(22%)	113(23%)	113(23%)	127(25%)	$\chi^2=8.89$
3. Not effective	129(26%)	104(21%)	136(27%)	168(34%)	P<.05

Between the 1973 and 1974 surveys there was no change in the perceived effectiveness of five of the eight proposed countermeasures. Of the three items showing a change, two achieve only marginal statistical significance.

APPENDIX B4

Self-Descriptions of Behavior

Table B1

Annual Mileage Driven (Q13)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Don't drive	36 (7%)	53 (11%)	35 (7%)	42 (8%)
2. Less than 10,000	188 (38%)	171 (34%)	207 (42%)	208 (42%)
3. 10,000 - 19,999	202 (40%)	178 (36%)	181 (36%)	186 (37%)
4. 20,000 - 29,999	49 (10%)	68 (13%)	54 (11%)	44 (9%)
5. 30,000 or more	24 (5%)	29 (6%)	22 (4%)	19 (4%)

N.S.

There was a small increase in the number of respondents who don't drive and small decreases in the high mileage category, adding up to an overall decrease in the mileage driven in 1974. These changes are not, however, of a magnitude sufficient to attain statistical significance.

Table B2

Days Driven Per Week (Q15)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Every day	260 (52%)	279 (56%)	283 (57%)	247 (49%)
2. Six days	72 (15%)	44 (9%)	46 (9%)	54 (11%)
3. Five days	58 (11%)	58 (11%)	55 (11%)	58 (12%)
4. Four days	24 (5%)	18 (4%)	21 (4%)	29 (6%)
5. Three days	26 (5%)	25 (5%)	28 (6%)	32 (6%)
6. Two days	14 (3%)	15 (3%)	17 (3%)	28 (6%)
7. One day	7 (1%)	6 (1%)	10 (2%)	12 (2%)
8. None	39 (8%)	55 (11%)	40 (8%)	40 (8%)

N.S.

Table B3

Number of Moving Violations in the Past 3 Years (Q16)

	<u>1973</u>	<u>1974</u>
1. None	433 (87%)	433 (87%)
2. One	54 (11%)	55 (11%)
3. Two	11 (2%)	9 (2%)
4. Three	1 (0%)	1 (0%)
5. Four	1 (0%)	2 (0%)

N.S.

Responses to this item are unavailable for 1971 and 1972 (previous reports tabulated the responses to item 17 as belonging to item 16: the mixup was due to a programming error).

Table B4

Traffic Accidents in the Last 3 years (Q17)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. None	404 (81%)	406 (81%)	402 (80%)	399 (80%)
2. One	69 (14%)	72 (14%)	77 (15%)	83 (12%)
3. Two	20 (4%)	16 (3%)	17 (4%)	15 (3%)
4. Three or more	7 (2%)	6 (2%)	4 (1%)	3 (1%)
				N.S.

Note: In previous reports the above responses to this question for the years 1971, 1972, and 1973 were presented as responses to question 16. The mixup was due to a programming error.

Table B5

Number of License Suspensions in the Last 3 Years (Q18)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Once or twice	8 (2%)	5 (1%)	3 (1%)	3 (1%)
2. None	452 (98%)	495 (99%)	497 (99%)	497 (99%)
				N.S.

One respondent in the 1974 survey reported that his license had been suspended twice during this period.

Table B6

Do You Drink? (Q19)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Yes	416 (84%)	408 (82%)	383 (77%)	366 (73%)
2. No	82 (16%)	90 (18%)	117 (23%)	132 (26%)
				N.S.

The slight decrease in the number of drinkers in the 1974 sample is not statistically significant.

Table B7

Have You Ever Drunk? (Q20)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Yes	112 (22%)	47 (9%)	65 (13%)	70 (14%)
2. No	32 (6%)	41 (8%)	53 (11%)	61 (12%)
3. No response	356 (72%)	412 (83%)	382 (76%)	369 (74%)
				N.S.

This question was answered only by those who had given a negative response to question 19.

Table B8

	Last Drink (Q21)			
	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Less than one month ago	8 (2%)	7 (1%)	4 (1%)	11 (2%)
2. One to two months	5 (1%)	7 (1%)	6 (1%)	5 (1%)
3. Three months to one year	12 (2%)	8 (2%)	13 (3%)	18 (4%)
4. More than one year ago	25 (5%)	24 (5%)	31 (6%)	37 (7%)
5. No response	450 (90%)	454 (91%)	446 (89%)	429 (86%)

N.S.

This question was answered only by those who answered affirmatively to question 20.

Table B9

Alcoholic Beverage Most Frequently Consumed (Q22)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Beer	134 (27%)	155 (31%)	149 (30%)	147 (29%)
2. Wine	105 (21%)	113 (23%)	93 (19%)	109 (22%)
3. Liquor	204 (41%)	171 (34%)	154 (31%)	110 (22%)
4. No Response	57 (11%)	61 (12%)	104 (20%)	110 (22%)

N.S.

Table B10

Self Ratings of Drinking Behavior (Q23)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Very light drinker	215 (43%)	255 (51%)	282 (56%)	227 (45%)
2. Fairly light drinker	130 (26%)	91 (18%)	80 (16%)	81 (16%)
3. Moderate drinker	94 (19%)	89 (18%)	82 (16%)	77 (15%)
4. Fairly heavy drinker	7 (1%)	5 (1%)	2 (0%)	3 (1%)
5. Heavy drinker	1 (0%)	1 (0%)	0 (0%)	1 (0%)

N.S.

Note: In previous reports the tabulated percentages referred to the proportion of those answering the question. In the above tabulation, the percentages refer to the proportion of the total sample of 500.

Table B11

1905

Drinking Habits (Q 24)

<u>Drinks per day</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. 8 or more	23 (5%)	13 (3%)	14 (3%)	13 (3%)
2. 5 - 7	52 (10%)	29 (6%)	14 (3%)	24 (5%)
3. 3 - 4	119 (24%)	95 (19%)	85 (17%)	88 (18%)
4. 1 - 2	279 (56%)	248 (50%)	250 (50%)	254 (51%)
				N.S.

This table condenses the rather extensive data collected in response to questionnaire item 24. The entries are the number of people checking a given category at least one day a week.

Table B12

Frequency of Driving after Drinking (Q25)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Often	25 (6%)	25 (6%)	19 (4%)	18 (5%)
2. Occasionally	99 (22%)	69 (15%)	66 (15%)	77 (20%)
3. Hardly ever	176 (38%)	166 (37%)	196 (44%)	167 (43%)
4. Never	131 (26%)	147 (33%)	142 (32%)	111 (28%)
5. Don't drive	29 (6%)	40 (9%)	21 (5%)	17 (4%)

$$\chi^2=11.58, P<.01$$

Note: the percentages are the proportion of the number of persons responding. Inspection of the table reveals a significant increase in the number of respondents who answer "occasionally" when asked to describe how often they drive after having had something to drink.

Table B13

Most You Will Drink and Continue to Drive (Q26)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. One drink	31 (15%)	5 (5%)	3 (4%)	2 (2%)
2. Two drinks	49 (23%)	19 (20%)	21 (25%)	26 (26%)
3. Three drinks	50 (24%)	25 (27%)	18 (22%)	22 (22%)
4. Four Drinks	28 (13%)	16 (17%)	17 (21%)	19 (19%)
5. Five drinks	24 (12%)	9 (10%)	7 (8%)	8 (8%)
6. Six drinks	10 (5%)	8 (9%)	5 (6%)	11 (11%)
7. Seven to eight drinks	5 (3%)	6 (6%)	7 (8%)	6 (6%)
8. Nine or more drinks	11 (5%)	6 (6%)	5 (6%)	3 (3%)
				N.S.

Tabulated percentages refer to the proportion of the number of respondents. Only those who responded "after" or "occasionally" to Question 25 were asked this question.

Table B14

Distance Driven After Drinking (Q27)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Less than one mile	40 (19%)	20 (18%)	6 (7%)	7 (7%)
2. 1-5 miles	82 (39%)	40 (37%)	33 (39%)	48 (48%)
3. 6-10 miles	49 (24%)	29 (26%)	31 (36%)	27 (27%)
4. 11-20 miles	25 (12%)	13 (11%)	12 (14%)	9 (9%)
5. Over 20 miles	13 (6%)	10 (8%)	3 (4%)	7 (7%)
				N.S.

Table B15

Second Thoughts About Driving After Drinking (Q28)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Yes	103 (48%)	40 (42%)	39 (45%)	56 (57%)
2. No	112 (52%)	55 (58%)	48 (55%)	43 (43%)
				N.S.

(The calculated chi-square of 2.55 does not reach the $P < .10$ level.)

Refused to Drive After Drinking Too Much (Q29)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Yes	126 (57%)	63 (66%)	53 (60%)	62 (63%)
2. No	95 (43%)	32 (34%)	35 (40%)	36 (37%)
3. Not responding	279	405	412	401
				N.S.

Table B17

Reason for Refusal to Drive (Q29a)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1. Knowledge of laws	10 (2%)	6 (1%)	2 (0%)	3 (1%)
2. Fear of arrest	6 (1%)	5 (1%)	2 (0%)	5 (1%)
3. Fear of accident	111 (22%)	53 (11%)	48 (10%)	55 (11%)
4. Not responding	373 (75%)	436 (87%)	448 (90%)	437 (87%)

Statistics were not computed because half of the categories contained fewer than five observations.

APPENDIX B5

Countermeasure Awareness

Table C1

Awareness of Campaign to Reduce Alcohol-Related Traffic Deaths (Q9)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1) yes	236 (47%)	296 (59%)	311 (62%)	263 (53%)
2) no	262 (52%)	202 (40%)	188 (30%)	237 (47%)

$$\chi^2=9.66, P<.01$$

This table indicates a significant decrease in public awareness of the public information program.

Table C2

Source of Awareness (Q10)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Another person	21 (4%)	35 (7%)	41 (8%)	61 (12%)*
2). Radio	45 (9%)	53 (11%)	47 (9%)	45 (9%)
3). T.V.	125 (25%)	149 (30%)	135 (27%)	18 (3%)**
4). Magazine	28 (6%)	41 (8%)	33 (7%)	16 (3%)
5). Newspaper	83 (17%)	127 (25%)	118 (24%)	106 (21%)
6). Billboard, road sign	5 (1%)	7 (1%)	6 (1%)	2 (0%)
7). Pamphlet, leaflet	15 (3%)	9 (2%)	24 (5%)	17 (3%)
8). Other	9 (2%)	29 (6%)	67 (13%)	50 (10%)

$$*\chi^2=4.43, P<.05$$

$$**\chi^2=14.57, P<<.01$$

Note: The percentages recorded in this table refer to the percentage of the total number of respondents in the survey, that is, 500, instead of the percentage of the total number of respondents. Therefore, these percentages differ from previously published tabulations of this same questionnaire item.

A 2 X 2 chi-square was computed separately for each response (checked vs. not checked by year).

Table C3

Recalled Content of Campaign Messages (Q10a)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). Don't drink and drive	98 (20%)	39 (8%)	27 (5%)	29 (6%)
2). Get problem drinkers off road	0 (0%)	69 (14%)	52 (10%)	50 (10%)
3). Drunken drivers need medical treatment	0 (0%)	31 (6%)	18 (4%)	23 (5%)
4). Drunken drivers need education	0 (0%)	28 (6%)	31 (6%)	34 (7%)
5). Stricter laws and enforcement	7 (1%)	30 (6%)	12 (2%)	7 (1%)
6). Police spot checking for DWIs	0 (0%)	17 (3%)	28 (6%)	37 (7%)
7). Accidents & deaths while DWI	0 (0%)	15 (3%)	13 (3%)	14 (3%)
8). Stop drivers for "breathalyzer"	14 (3%)	35 (7%)	52 (10%)	43 (9%)
9). Need for education re intoxication & DWI	18 (4%)	44 (9%)	31 (6%)	26 (5%)
10). General description of program	0 (0%)	17 (3%)	21 (4%)	6 (1%)
11). Scattered comments	46 (9%)	6 (1%)	4 (1%)	38 (8%)*
12). Stopped by police survey while driving	3 (1%)	23 (5%)	17 (3%)	0 (0%)**

* $\chi^2=26.31$, $P<<.01$
** $\chi^2=17.29$, $P<<.01$

Note: the tabulated percentages refer to percents of the total sample size, i.e., percent of 500. They therefore differ from percentages reported in previous years, which were computed on the basis of the total number of responses to this particular question. Note also that "scattered comments" is a catch-all category; therefore it is virtually impossible to attach a meaningful interpretation to the reported increase in the number of respondents in this category.

Table C4

Awareness of Program Sponsorship (Q11)

	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>
1). ASAP (local)	15 (3%)	36 (7%)	65 (13%)	78 (19%)
2). Other	77 (15%)	100 (20%)	98 (20%)	82 (16%)*
3). Can't recall	109 (22%)	144 (29%)	142 (28%)	101 (20%)
4). Not required to respond	264 (53%)	204 (41%)	190 (38%)	238 (48%)
5). No response	35 (7%)	16 (3%)	5 (1%)	1 (0%)

categories 1 and 2 $\chi^2=2.58$, $P\approx.10$

APPENDIX C

Construction of Numerical Scales

A. Alcohol Knowledge Scale

This scale measures the respondent's knowledge of (1) the effects of alcohol on the human body, (2) the relation between drinking and traffic accidents, and (3) Virginia traffic regulations dealing with driving while intoxicated. A respondent was given one point for each correct answer to questions 2, 3, 4, 4c, 6, 7 and 8. In question 3, responses of four, five or six out of every ten traffic deaths were acceptable and considered correct. In question 7, responses from four, five and six were considered correct, since this answer depends, in part, on the weight of the drinker. Higher scores on this scale indicate knowledgability about the effects of alcohol and the real hazards of driving while under its influence. The scale can assume values from 0 to 18.

B. Perceived Risk Scale

The perceived risk scale measures one aspect of the subject's attitude toward driving while intoxicated, his perceptions of the dangers inherent in driving while intoxicated. A high score on this scale indicates that the subject believed driving while under the influence of alcohol was a risky business indeed. The responses to questions 30a, b, c, d, and e go into the computation of this scale with each "very high" response being assigned a value of 5, each "high" response assigned a value of 4, and so on down through "very low", which is assigned a value of 1. In addition, the subject is given one extra point if he responded that he felt that driving while under the influence of alcohol caused the greatest number of traffic accidents in question 1. The scale can assume values from 4 to 21.

C. Attitude toward Rehabilitation Scale

The attitude scale toward rehabilitation summarizes the respondent's tendency to feel that drunken drivers could be helped more effectively through treatment programs than by punitive measures such as fines, prison terms, or license suspensions. The computation of this scale awarded the respondent one point for answering "require medical treatment" on questions 4a and 4b, and by adding his effectiveness ratings on sections a, c, e, f and g of question 12. A response of very effective was given a value of 2, and a response of fairly effective was given a value of 1. A response of not very effective was given a value of 0. It will be noted that the countermeasures described in these sections are the ones which the ASAP program has been promoting as the most effective and desirable. A high score indicates a positive attitude toward rehabilitative countermeasures. The scale can assume values from 0 to 20.

D. Driving Exposure Scale

Simply adding the coded replies to questions 13 and 15 yields an index of how far and how often a subject drives. Higher scores indicate more driving. The scale can assume values from 1 to 12.

E. Hazardous Driving Scale

This scale is obtained by adding the responses to questions 16, 17 and 18 dealing with the number of tickets, accidents and suspensions within the last three years. A high score indicates a poor (or very unlucky) driver. The scale can assume values from 0 to 12.

F. Driving Risk Scale

This scale represents an attempt to factor the element of exposure out of the computation of the hazardous driving scale. The scale value is obtained by dividing the hazardous driving scale value by the driving scale value. The index so obtained corresponds loosely to incidents per unit exposure. A high value on this scale indicates that the respondent experienced more troubles per mile. The scale can assume values from 0 to 12.

G. Drinking Behavior Scale

This scale attempts to index the amount of drinking by weighting the answers to questions 19, 20 and 21. In order to include as many respondents as possible, only people who had never drunk beer, wine or liquor were excluded from this scale. People who were presently drinking were given a score of twelve, and those who stated they had stopped drinking were given a score of 12, 6, 4 or 3, depending upon how long ago they had quit (question 21). The coded responses from question 23 (what kind of drinker you consider yourself to be) and the weighted values from question 24 were added to this base. The formulas are presented in Table B1.

Table B1

- a. If Q19 is yes: base = 12
- b. If Q20 is yes: base = 12 ÷ Q21.
- c. Drinking scale = base + Q23 + (8 × Q23a) + (6 × Q24b) + (4 × Q24c) + (2 × Q24d)

On this scale, a high score indicates heavy drinking. The scale can assume values from 3 to 73.

H. Driving While Intoxicated Scale

This scale adds up the respondent's self-reports as to how often (question 25), how much he would drink and still drive (question

26), and whether he had ever had second thoughts while driving under the influence of alcohol (question 28). These three variables were combined by adding up the subject's responses to these three questions as numerically encoded on the interview forms. To this sum was added one-fifth of the encoded value of the subject's answer to the question "How far do you drive after drinking?". In order to allow some credit for having the good sense not to drive when too drunk to do so, one point was subtracted from the scale if the subject answered yes to question 29. This scale assumes values from 1 to 19.5.

All scales were calculated by Statistical Package for the Social Sciences, Version 6, run on the CDC 6400 computer at the University of Virginia in Charlottesville, Virginia.

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