

77009 A05

Admi

029934

UMTRI-93-23

**MICHIGAN OMNIBUS STATE TRAFFIC SAFETY SURVEY:
FALL 1992**

**Fredrick M. Streff
Lisa J. Molnar
Robert H. Schultz
Carl Christoff**

April 1993

UMTRI The University of Michigan
Transportation Research Institute



1. Report No. UMTRI-93-23		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle Michigan Omnibus State Safety Survey: Fall 1992				5. Report Date April 1993	
				6. Performing Organization Code	
7. Author(s) Streff, F.M., Molnar, L.J., Schultz, R.H., Christoff, C.				8. Performing Organization Report No. UMTRI-93-23	
9. Performing Organization Name and Address The University of Michigan Transportation Research Institute 2901 Baxter Road Ann Arbor, MI 48109				10. Work Unit No. (TRAIS)	
				11. Contract or Grant No. MPA-93-005	
12. Sponsoring Agency Name and Address Michigan Office of Highway Safety Planning 300 S. Washington Sq., Suite 300 Lansing, MI 48913				13. Type of Report and Period Covered Final, October 1, 1992- September 30, 1993	
				14. Sponsoring Agency Code	
15. Supplementary Notes					
16. Abstract <p>The 1992 Omnibus State Traffic Safety Survey is part of a multiyear study providing periodic information on traffic safety attitudes, perceptions, and reported behaviors of adult residents throughout the state of Michigan. The latest survey wave was conducted in the fall of 1992 (N=753). The telephone survey instrument contained 50 questions on six broad traffic safety topics including: (1) police and roads; (2) travel speeds; (3) driver licensing; (4) heavy trucks; (5) alcohol consumption and alcohol-impaired driving; and (6) occupant protection. Majority support was found for six major traffic safety policies, and majority support was not found for three other policies. Opinions were about evenly divided on six issues. Stratification of responses by gender, age, survey year, and other selected variables revealed significant differences. Results are of interest to those considering alternative policies and programs to reduce injuries, and to those monitoring injury relevant behaviors such as alcohol consumption, safety belt use, and speeding.</p>					
17. Key Words Traffic safety, Injury control, Public opinion, Telephone survey				18. Distribution Statement Unlimited	
19. Security Classif. (of this report) Unclassified		20. Security Classif. (of this page) Unclassified		21. No. of Pages 181	22. Price

Reproduction of completed page authorized

The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Michigan Office of Highway Safety Planning nor the U.S. Department of Transportation, National Highway Traffic Safety Administration.

Prepared in cooperation with the
Michigan Office of Highway Safety Planning
and
U.S. Department of Transportation,
National Highway Traffic Safety Administration
through Highway Safety Project #MPA-93-005

Contents

Executive Summary	1
Introduction	5
Methods	7
Survey Instrument Development	7
Sample Design	8
Results	9
Police Road Patrols	11
Urban Freeway Driving Speeds	13
Speed at Which Drivers Will Be Ticketed on Urban Freeways	15
Rural Driving Speeds	17
Speed at Which Drivers Will Be Ticketed on Rural Freeways	19
Radar Detectors	21
Graduated Driver Licensing for Young Beginning Drivers	23
Graduated Driver Licensing for Older Drivers	25
Youth Driving Curfew	27
Driving Curfew for Older Drivers	29
Impaired Driver Ability Due to Advancing Age	31
Condition of Freeways	33
Condition of Major Roads	35
Reallocation of Existing Spending for Road Reconstruction	37
Increased State Taxes for Road Reconstruction	39
Police Violation of Speed Limits	41
Police Violation of Traffic Laws Other than Speed Limits	43
Traffic Laws Other than Speed Limits that Police Violate	45
Traffic Safety as a High Priority by State Government	47
Traffic Safety as a High Priority by Local Government	49
Speed Limits on Freeways	51
Speed Limits on Roads Other than Freeways	53
Safety of Truck Drivers	55
Damage from Objects Falling from Trucks	57
Enforcement of Traffic Laws for Truck Drivers	59

Seriousness of Alcohol-Impaired Driving Problem	61
Accountability of Alcoholic Beverage Servers	63
Sobriety Check Lanes	67
Chance of Being Pulled Over For Driving While Impaired	69
Chance of Being Arrested For Driving While Impaired	71
Zero BAC Limit for Drivers Under Age 21	73
Frequency of Drinking	75
Frequency of Drinking to Intoxication	77
Location of Drinking to Intoxication	79
Self-Reported Alcohol-Impaired Driving	81
Police Action for Failure to Pass Alcohol Test	83
Police Action for Refusal to Take a Breath Alcohol Test	85
Mandatory Court Sentence for First Alcohol-Impaired Driving Conviction	87
Mandatory Court Sentence for Open Beer Conviction	89
Mandatory Court Sentence for Second Conviction for Alcohol-Impaired Driving	91
Driving Location for Alcohol-Impaired Driving Violation	93
Conditions for Restoration of Revoked Driver License	95
Fee for Returning Revoked or Suspended Driver License	97
Penalty for First Conviction for Driving on Suspended, Revoked, or Denied License	99
Knowledge of New Alcohol-Impaired Driving Laws	101
Chance of Being Ticketed for Safety Belt Nonuse	105
Self-Reported Safety Belt Use	107
Changing Safety Belt Law to Primary Enforcement	109
Bicycle Helmet Law	111
Safety Belt Promotion Program at Work	113
Increase in Safety Belt Use Due to Safety Belt Promotion Program at Work	115
Discussion	117
References	121
Appendix A Survey Questionnaire	123
Appendix B Instructions to Interviewers	153
Appendix C Description of Sample Design	161

Appendix D Confidence Interval Bands for Univariate Percentages 171

Acknowledgments

We appreciate the assistance of several individuals who were essential to the completion of this project. The survey data were collected using the technical facilities of the Institute for Social Research at The University of Michigan. Michael Traugott and Kenneth Goldstein directed survey data collection, Steven Heeringa and Judith Connor managed sample design, and ZoAnne Blackburn programmed the Computer Assisted Telephone Interview system application and directed telephone interviewing. Special thanks to Laura Ratzlaff who coordinated report production.

Executive Summary

The 1992 Omnibus State Traffic Safety Survey is part of a multiyear study providing periodic information on traffic safety attitudes, perceptions, and reported behaviors of adult residents throughout the state of Michigan. The latest survey wave was conducted in the fall of 1992 (N=753). The telephone instrument contained 50 questions on a variety of traffic safety topics.

Majority support was found for the following traffic safety policies:

- graduated driver licensing for young beginning drivers
- graduated driver licensing for older drivers
- a driving curfew for older drivers
- reallocation of existing state spending for road reconstruction projects
- a zero BAC limit for drivers under age 21
- requiring bicycle riders to wear helmets

Majority support was not found for the following policies:

- increased state taxes for road reconstruction projects
- accountability of alcoholic beverage servers for at least some of the damages caused by a customer who injures someone in a car crash or while driving
- changing Michigan's safety belt law to allow primary enforcement

Opinions were about evenly split regarding the following policies:

- the desire for more police patrolling the roads for traffic violators
- a youth driving curfew
- use of sobriety check lanes

Other findings concerning attitudes and behaviors included the following:

- Over half reported driving at least 60 mph on Michigan's urban freeways and highways, almost a third reported driving at least 65 mph.
- Almost half reported that drivers will not be ticketed on Michigan's urban freeways unless they are driving at least 65 mph (i.e., they exceed the speed limit by at least 10 mph).
- Over half reported driving less than 65 mph on Michigan's rural freeways and highways, however, fourteen percent reported driving at least 70 mph.
- Over three-quarters reported that drivers will not be ticketed on Michigan's rural freeways unless they are driving at least 70 mph (i.e., they exceed the speed limit by at least 5 mph). Over a third indicated they must drive at least 75 mph (i.e., exceed the limit by at least 10 mph) before they will be ticketed.
- Over half reported that radar detectors should be legal.
- Most did not know of a family member having trouble driving because their driving ability has been affected by their advancing age.
- Over half reported that the freeways in Michigan are in average condition; a quarter indicated they are in good

- condition and a fifth indicated they are in poor condition.
- A plurality reported that the major roads in their area are in average condition. The remainder were about evenly split between reporting they are in good condition and reporting they are in poor condition.
 - Almost a third reported that police officers always violate speed limits without any job-related reason or violate them most of the time. Over half indicated police officers sometimes violate speed limits.
 - A plurality reported that police officers sometimes violate traffic laws other than speed limits without any job-related reason. Over a third indicated they seldom or never violate such laws.
 - The most frequently mentioned laws other than speed limits that police officers violate were running a stop light or sign, followed by illegal turn, and failure to yield.
 - Respondents were about evenly split in reporting that traffic safety is treated as a high priority by state and local government and reporting it is not treated as a high priority by state and local government.
 - Most reported that the speed limits on Michigan's freeways and other roads are set about right.
 - A plurality reported that truck drivers drive as safely as car drivers. The remainder were about evenly split between reporting truck drivers drive more safely and reporting they drive less safely than car drivers.
 - Most reported no damage to their vehicle in the past 12 months from objects coming off or falling off a semi-trailer truck.
 - Almost half reported that laws are enforced about the same for truck drivers and car drivers. The remainder were evenly split in reporting that laws are more strictly enforced and that laws are less strictly enforced for truck drivers than car drivers.
 - Most reported that the alcohol-impaired driving problem in their community is somewhat or very serious.
 - Over half reported that it is unlikely a driver will be pulled over by police for driving while impaired; however, over a third indicated there is a good chance.
 - Almost half reported that a driver will always be arrested or arrested nearly every time once pulled over for driving while impaired.
 - Most reported drinking little or no alcohol.
 - Most reported no occasions of drinking to intoxication in the past two week; however, about a fifth reported drinking to intoxication on at least one occasion. Of those, over a third reported drinking to intoxication at home; another third reported drinking to intoxication in a bar. Almost a fifth drove after drinking to intoxication.
 - Over three-quarters reported that there is at least a good chance of getting a ticket for not using a safety belt if pulled over for speeding.
 - Over three-quarters reported they always use safety belts or use belts most of the time.
 - Most reported no safety belt promotion program at their place of work.
 - Of those with a safety belt promotion program at their place of work, almost a third reported

increased safety belt use because of the program.

Findings concerning knowledge of the new alcohol-impaired driving laws implemented in Michigan include:

- Less than a quarter knew that after a driver is stopped for suspected alcohol-impaired driving and has failed an alcohol test, the driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court.
- Less than a fifth knew that after a driver is stopped for suspected alcohol-impaired driving and the driver refuses to take a breath alcohol test, the driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court.
- Less than a fifth knew that the mandatory court sentence for a driver's first conviction for alcohol-impaired driving is a 30-day license suspension that does not allow driving for any purpose.
- Less than a fifth knew that the mandatory court sentence for a driver convicted of carrying an open beer in the car while driving is a misdemeanor conviction and two points on the driver's record.
- Less than a third knew that the mandatory court sentence for a second conviction for alcohol-impaired driving is 48 hours of consecutive jail time or ten days of community service.
- Less than four percent knew that a driver with a blood alcohol content above .10 percent is in violation of the law if that driver was driving in an area generally accessible to motor vehicles.
- Just over a quarter knew that if a person is convicted of alcohol-

impaired driving and his or her license is revoked, the new law does not allow restoration of the driving privilege during the period of revocation.

- Less than ten percent knew that the fee for returning a revoked or suspended license is \$125.
- About twelve percent knew that the maximum penalty for a person's first conviction for driving on a suspended, revoked, or denied license is \$500.

The following changes were found between survey years:

- Reported driving speeds on Michigan's urban freeways and highways have increased since 1988;
- The perceived likelihood that drivers must exceed the speed limit by at least 10 mph on Michigan's rural freeways before risking a ticket increased from 1990;
- Support for the legality of radar detectors increased from 1990;
- Support for a youth driving curfew has declined since 1987;
- The proportion reporting that truck drivers drive less safely than car drivers increased from 1990, and the proportion reporting that truck drivers drive as safely as car drivers declined;
- Support for accountability of alcoholic beverage servers for at least some of the damages caused by a customer who injures someone in a car crash declined slightly from 1990;
- The perceived likelihood of being pulled over for driving while impaired decreased from 1990;

- Support for a zero BAC limit for drivers under age 21 decreased slightly from 1990;
- Self-reported drinking to intoxication at home decreased from 1990, and self-reported drinking at another's home or in a bar increased;
- Self-reported driving after drinking to intoxication increased in 1992 after declining between 1987 and 1990;
- The perceived likelihood of a ticket for safety belt nonuse increased from 1987-1990 levels;
- The proportion reporting they always use safety belts has increased since 1988.

Introduction

Monitoring public opinions and behavior is an important part of policy planning and evaluation. Public opinion and behavior data guide such planning by providing information about opportunities and needs for change; opinions and behavior are also shaped by policies and programs. Thus, opinion and behavior data can inform decision makers about new or revised policies and programs, and provide information to assist evaluation of existing policies and programs. The Omnibus State Traffic Safety Survey provides such data.

The Omnibus State Traffic Safety Survey is a multiyear study intended to provide periodic information on traffic safety attitudes, perceptions, and reported behaviors of adult residents of the state of Michigan to facilitate policy planning and evaluation related to traffic safety. The first phase of the survey was conducted in the summer of 1987 to design, pretest, and implement a telephone survey on traffic safety issues using a small statewide probability sample (N=200). The second phase involved full implementation of the survey in the fall of 1987 with a representative sample of 760 of the state's residents over the age of 18. Subsequent phases were conducted in the fall of 1988 and fall of 1990 (with statewide probability samples of 760 and 753 adult Michigan residents, respectively).

The current phase reported here was conducted in the fall of 1992, using a statewide probability sample of 753 residents over the age of 18. As in the past, this phase involved some revision of the survey instrument from the previous phase to reflect new laws or changes in existing laws and to address emerging traffic safety issues. Many of the items remain identical to those in previous phases, enabling comparison of results across surveys.

Methods

Survey Instrument Development

The telephone survey instrument used in the fall 1992 survey, reported here, was quite similar to the instrument used in 1990. Some items used in the 1990 survey were deleted because recent or impending changes in laws diminished the usefulness of the items. Other items were dropped because it was felt they had yielded sufficient information for planning purposes and their continued inclusion in the survey would bring few additional benefits. Some of these items may be reintroduced to the survey in a later phase.

Some new items were added to address emerging traffic safety issues (e.g., funding of road reconstruction projects, treatment of traffic safety as a high priority by state and local government, appropriateness of speed limits on freeways and other roads). A few items from phases conducted prior to 1990 were reintroduced to assess changes in public opinions over time (e.g., condition of freeways and major roads). A set of items related to alcohol-impaired driving legislation recently implemented in Michigan was added to the survey instrument to assess the public's knowledge of the new laws. These items query respondents about their specific knowledge, rather than opinions or behaviors, and therefore represent a departure from other items in the survey. Finally, a few items were modified to provide more useful information or to improve clarity (e.g., damage from objects falling off semi-trailer trucks).

Development and testing of the original survey instrument is described in detail elsewhere (Wagenaar, Streff, and Maybee, 1987). A brief summary is provided here. An extensive process was used to thoroughly review published and fugitive transportation safety literature to identify potential survey items. The items identified in that review were categorized by subject and reviewed with respect to item content, wording, and appropriateness of response categories. From the total pool, all items that were possible candidates for inclusion in the survey instrument were extracted. A number of additional items were developed to address issues raised by officials in key informant interviews.

Before formal pretesting of the current survey instrument, new items and items changed from previous surveys were revised to improve item clarity, wording, and response categories. Each survey item was pretested in several iterations. Prior to formal pretesting, all survey items were programmed in the Computer Assisted Telephone Interview (CATI) system of The University of Michigan Institute for Social Research, where actual interviewing was conducted. (A complete description of the CATI system is provided in Wagenaar, Streff, and Maybee, 1987.) Finally, the complete survey instrument was pretested before actual implementation of

the study. The complete survey instrument used in the 1992 survey is contained in Appendix A. Instructions to the interviewers can be found in Appendix B.

Sample Design

Sample design for the survey is discussed in a technical memorandum prepared by the sampling section of the Survey Research Center at the University of Michigan Institute for Social Research. The memorandum is contained in Appendix C.

Results

The 1992 survey contained 50 items on a variety of traffic safety topics. Pie charts showing response distributions for the total sample are provided for every item in the survey. Confidence interval bands for the univariate distributions are contained in Appendix D. These bands should not be used to assess differences between response categories or to assess distributions other than univariate distributions (i.e., bivariate distributions).

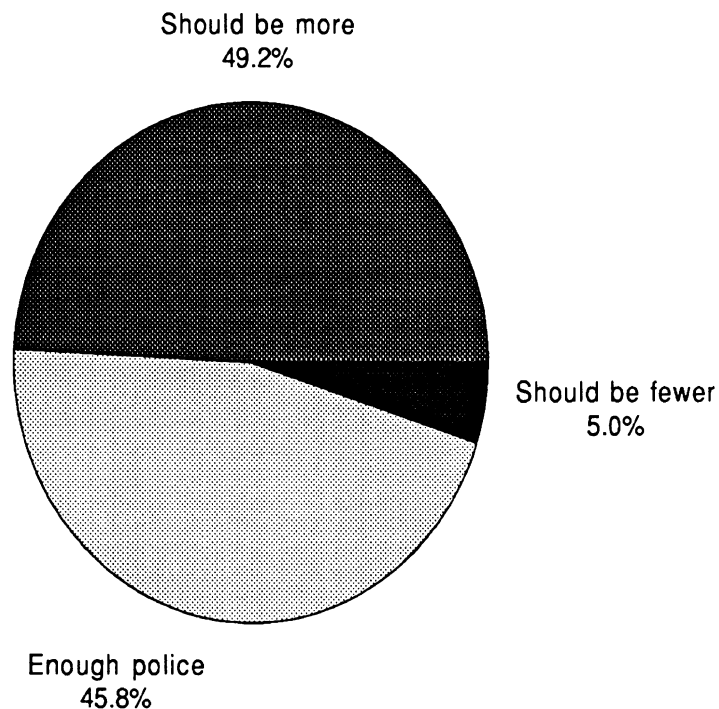
In addition to assessing univariate relationships, we examined each item in the survey by respondent gender, age, and survey year.¹ A number of other bivariate relationships of interest were also examined. Charts of notable bivariate relationships are included in the results section. All percentages in the figures are weighted to reflect the sample design, while Ns reflect the actual number of respondents for each question. All relationships reported in this report are statistically significant at $p < .05$.

¹Proportions of respondents for age, gender, income, and education categories in the current sample are similar to statewide census distributions (Table 1).

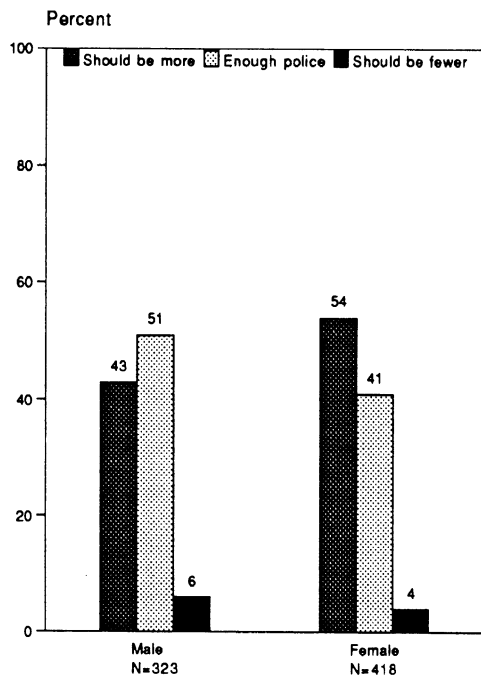
Table 1. Demographic Characteristics of Sample		
	Unweighted N	Weighted Percent
<u>Age</u>		
18-20	20	4.7
21-30	147	24.2
31-40	189	22.6
41-50	139	17.1
51-60	92	12.3
61-70	86	11.0
70+	73	8.2
<u>Gender</u>		
Male	328	47.6
Female	425	52.4
<u>Income</u>		
Less than \$5,000	70	8.5
\$5,000-14,999	97	13.1
\$15,000-24,999	123	15.8
\$25,000-34,999	145	18.6
\$35,000-49,999	149	20.2
More than \$50,000	169	23.6
<u>Education</u>		
Less than 13 years	340	46.2
13 - 16 years	343	45.1
More than 16 years	69	8.7
<u>Miles driven per year</u>		
None	34	4.1
less than 5,000	145	20.4
5,000 - 10,000	100	13.9
10,000 - 25,000	319	44.0
More than 25,000	123	17.6

Police Road Patrols

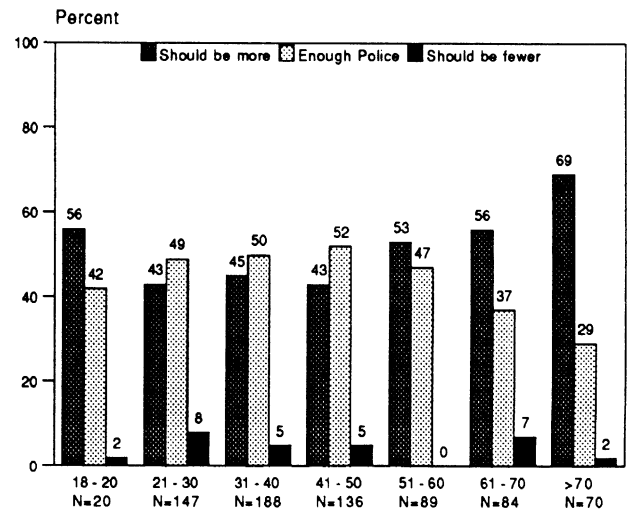
Respondents were asked: **Do you feel there are enough police patrolling the roads in Michigan looking for traffic violations, or should there be more police or fewer police patrolling the roads?** A total of 741 respondents gave a valid response to this item (i.e., they stated an opinion about the number of police patrolling the roads). The remaining respondents in the survey indicated they did not know or had no opinion. Respondents were about evenly split between reporting that there are "enough" police and that there "should be more" police patrolling the roads. Relatively few respondents indicated there should be "fewer" police patrolling the roads. Women were more likely than men to report a desire for more police patrols. Opinions were related to age, with respondents age 21-50 less likely than either younger or older respondents to report a desire for more police patrols. Respondents' desire for more police patrols generally decreased with increasing annual miles driven. Their desire for more police patrols decreased with increasing urban freeway driving speeds until speeds of 70 mph or more, but was unaffected by rural freeway driving speeds. There was no discernable pattern to the data across survey years.



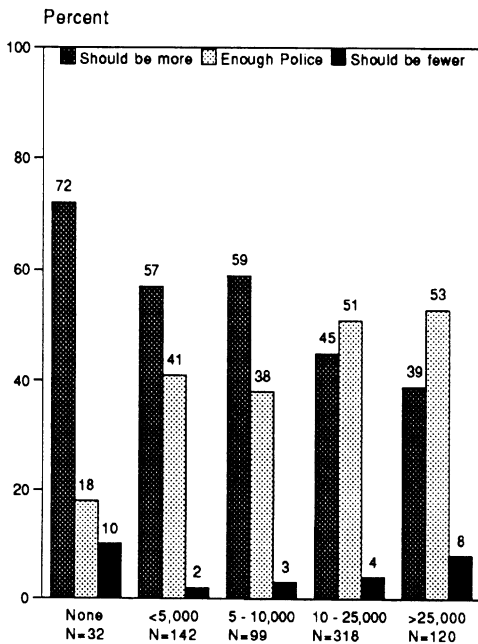
Police Road Patrols



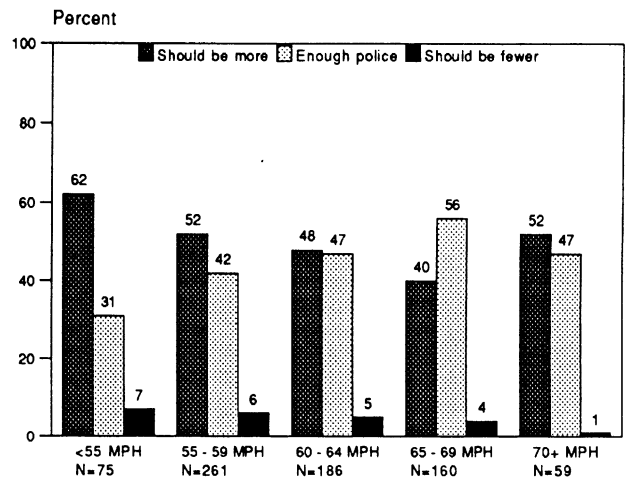
Police Road Patrols, by Gender



Police Road Patrols, by Age



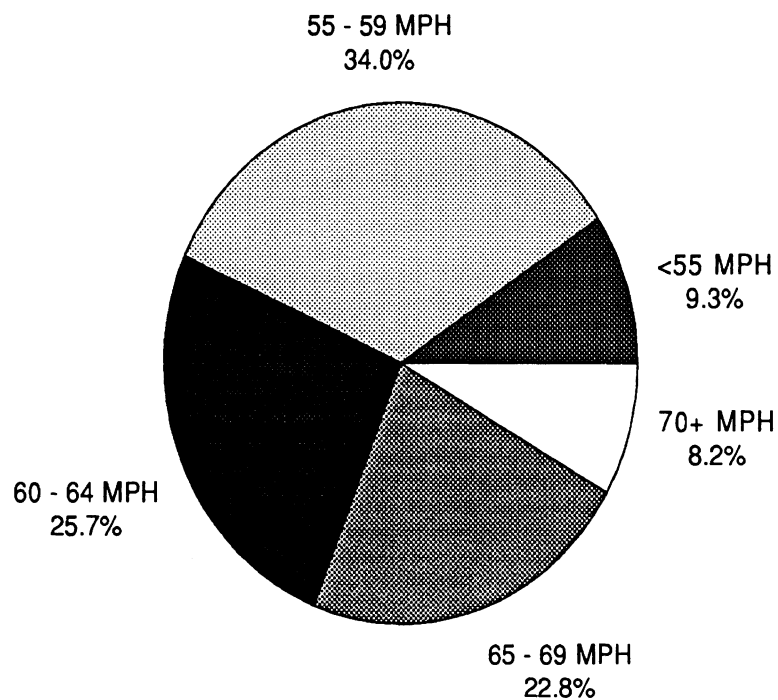
Police Road Patrols, by Annual Miles Driven



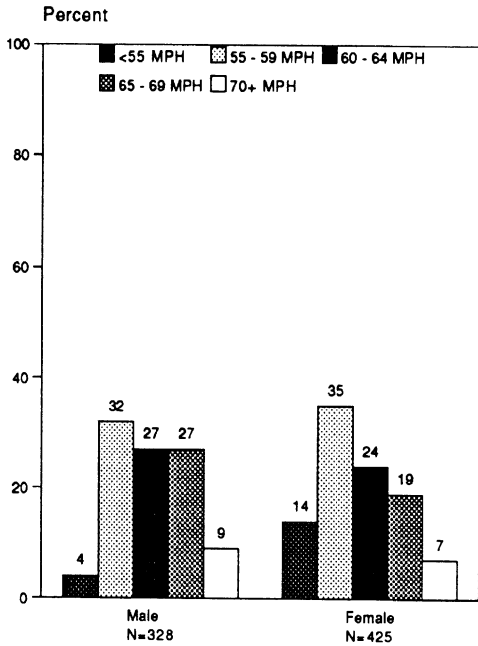
Police Road Patrols, by Urban Freeway Driving Speeds

Urban Freeway Driving Speeds

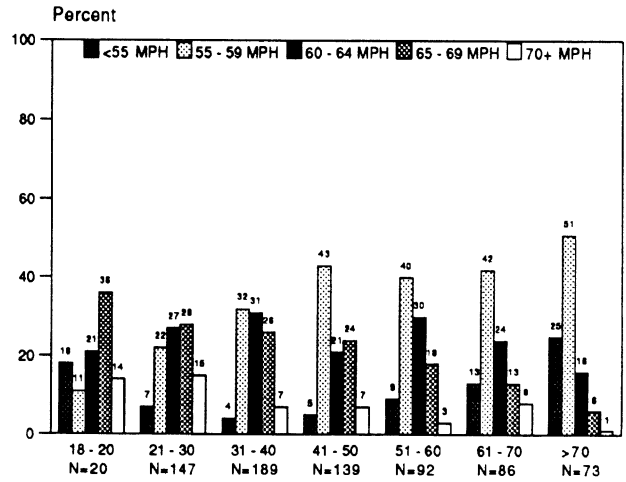
Respondents were asked: **How fast do you generally drive on Michigan's urban freeways and highways?** A total of 753 respondents gave a valid response to this item. Over half of respondents reported driving at least 60 mph on Michigan's urban freeways and highways; almost a third of respondents reported driving at least 65 mph. Men reported driving at higher speeds than women. Reported driving speeds generally decreased with age and increased with reported annual miles driven. Reported driving speeds on Michigan's urban freeways and highways appear to have increased since 1988.



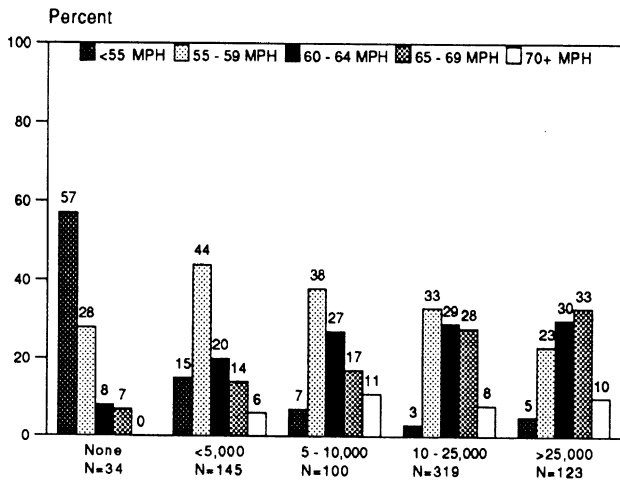
Urban Freeway Driving Speeds



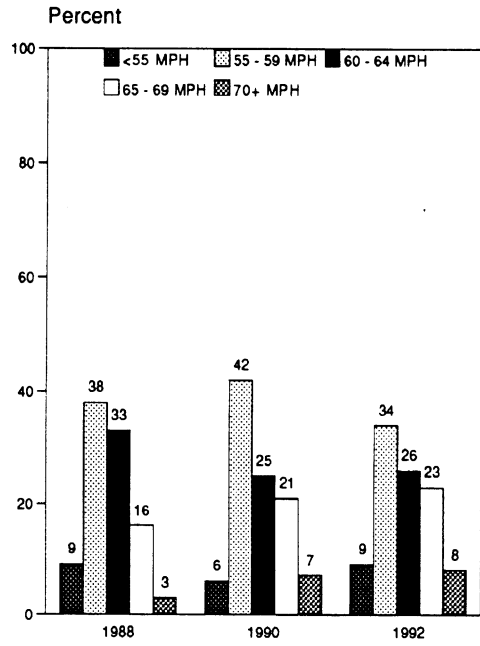
Urban Freeway Driving Speeds, by Gender



Urban Freeway Driving Speeds, by Age



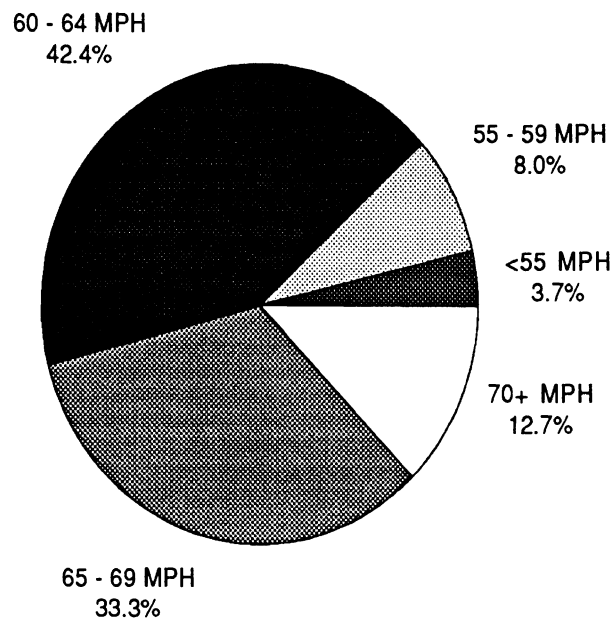
Urban Freeway Driving Speeds, by Annual Miles Driven



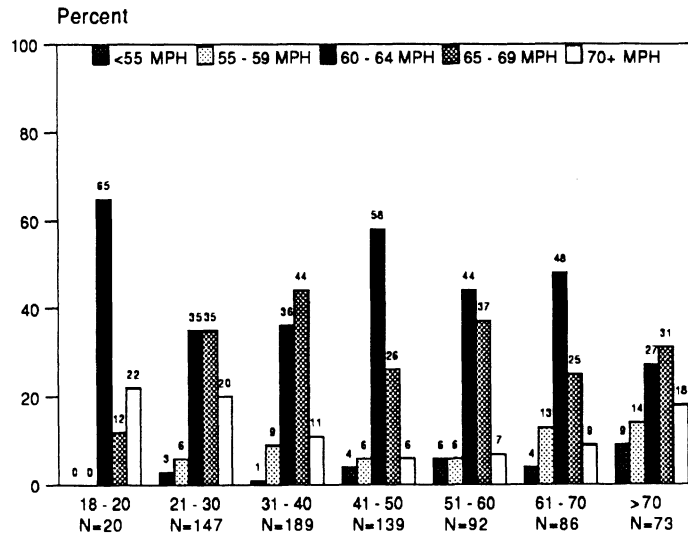
Urban Freeway Driving Speeds, by Survey Year

Speed at Which Drivers Will Be Ticketed on Urban Freeways

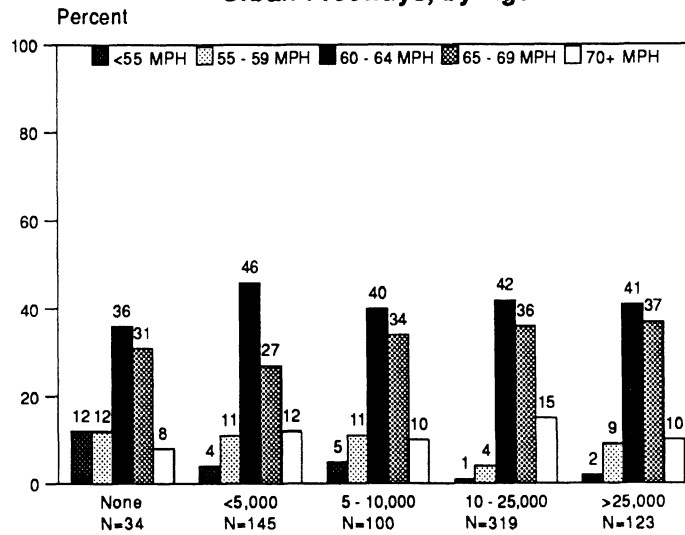
Respondents were asked: **Currently the speed limit on Michigan's urban freeways is 55 miles per hour. Where the limit is 55, how fast do you think you have to be driving before police using radar at the roadside will stop you and give you a ticket?** A total of 753 respondents gave a valid response to this item. Almost half of respondents reported that drivers will not be ticketed unless they exceed the speed limit by at least 10 mph. Respondents age 18-30 and over age 70 were more likely than other age groups to report that drivers must exceed the limit by at least 15 mph before risking a ticket. Reported speeds at which drivers will be ticketed were related to urban freeway driving speeds, with those who reported driving 70+ mph most likely to report ticket threshold speeds of 5+ mph over the limit. There was a statistically significant, but small, relationship between opinions and annual miles driven. There was no relationship between opinions and gender and no discernable pattern to the data across survey years.



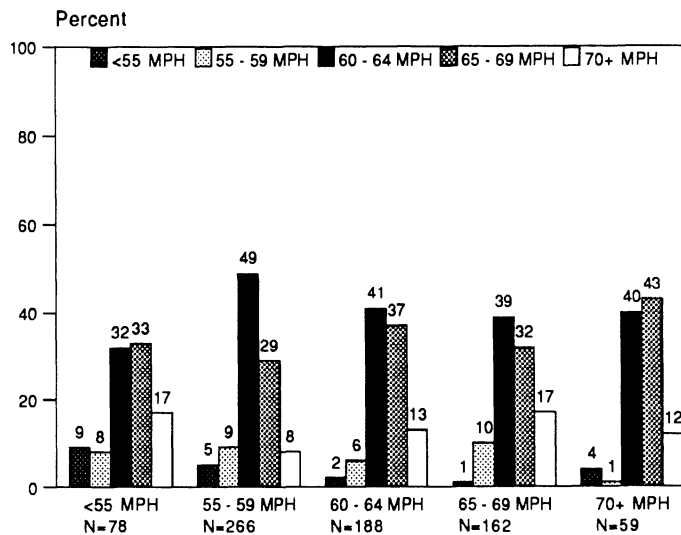
Speed at Which Drivers Will Be Ticketed on Urban Freeways



Speed at Which Drivers Will Be Ticketed on Urban Freeways, by Age



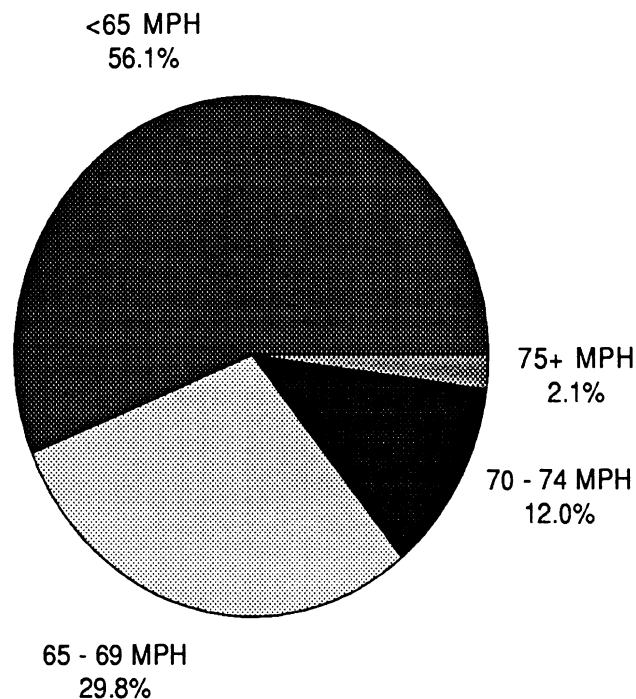
Speed at Which Drivers Will Be Ticketed on Urban Freeways, by Annual Miles Driven



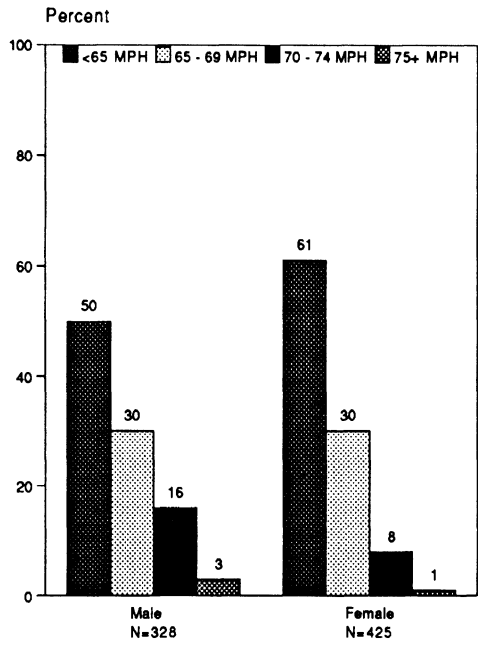
Speed at Which Drivers Will Be Ticketed on Urban Freeways, by Urban Freeway Driving Speeds

Rural Driving Speeds

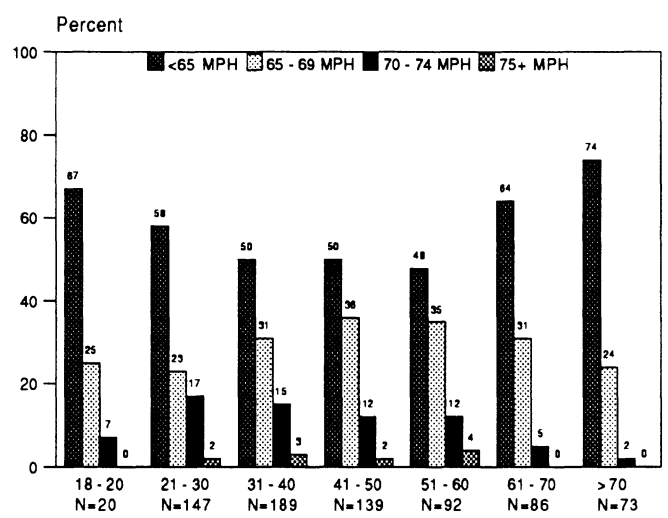
Respondents were asked: **How fast do you generally drive on Michigan's rural freeways and highways?** A total of 753 respondents gave a valid response to this item. Over half of respondents reported driving less than 65 mph on Michigan's rural freeways and highways; however, fourteen percent reported driving at least 70 mph. Men were twice as likely as women to report driving speeds of 70 mph or more. Respondents age 21-60 were more likely than either younger or older respondents to report driving speeds of 70 mph or more. Driving speeds generally increased with annual miles driven. There was no discernable pattern to the data across survey years.



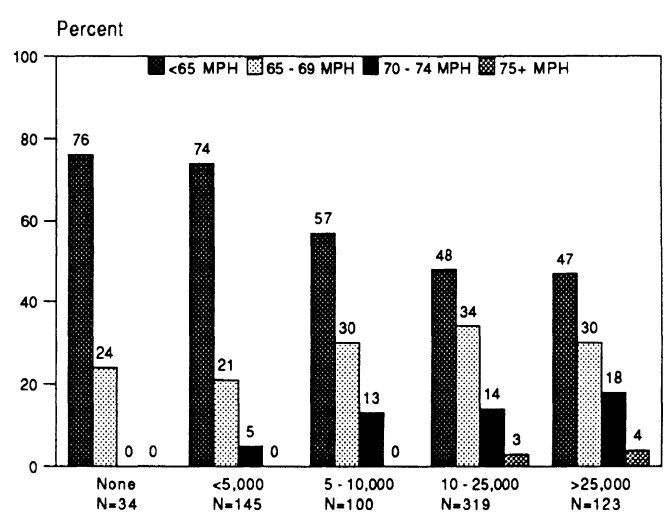
Rural Freeway Driving Speeds



Rural Freeway Driving Speeds, by Gender



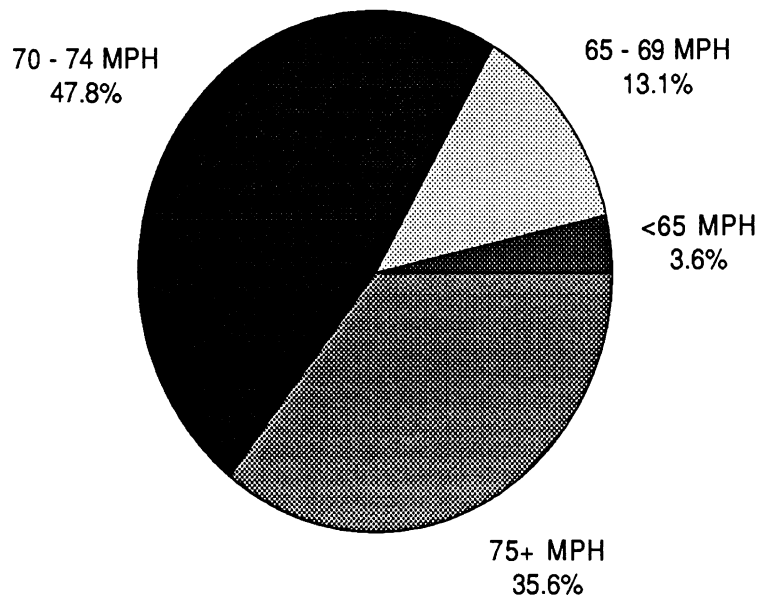
Rural Freeway Driving Speeds, by Age



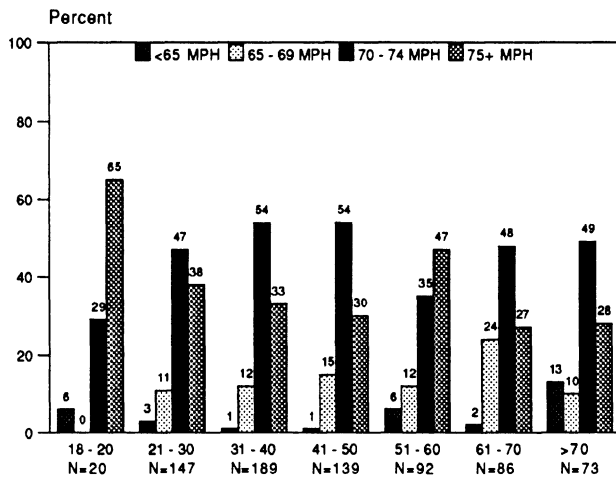
Rural Freeway Driving Speeds, by Annual Miles Driven

Speed at Which Drivers Will Be Ticketed on Rural Freeways

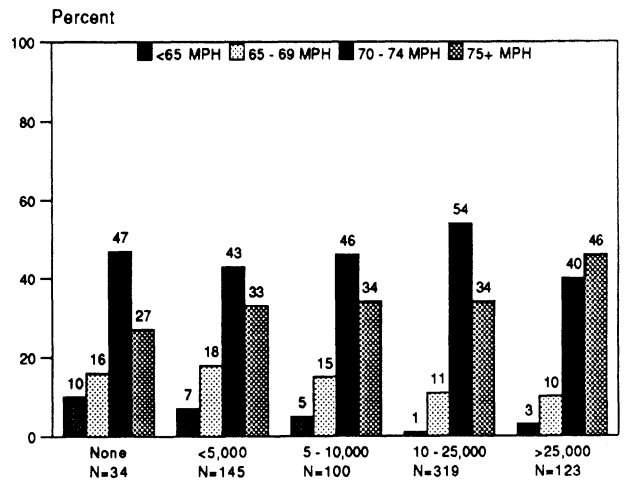
Respondents were asked: **Currently the speed limit on Michigan's rural freeways is 65 miles per hour. Where the limit is 65, how fast do you think you have to be driving before police using radar at the roadside will stop you and give you a ticket?** A total of 753 respondents gave a valid response to this item. Over three-quarters of respondents reported that drivers must exceed the speed limit by at least 5 mph before they will be ticketed; over a third indicated that drivers must exceed the limit by at least 10 mph before they will be ticketed. Respondents age 18-20 and 51-60 and those who reported more than 25,000 annual miles driven were more likely than other respondents to indicate that drivers will not be ticketed unless they exceed the speed limit by at least 10 mph. Reported speeds at which drivers will be ticketed increased as reported driving speeds on Michigan's rural freeways increased. There was no relationship between reported speeds at which drivers will be ticketed and gender. Respondents in 1992 were more likely than respondents in previous survey years to indicate drivers must exceed the speed limit by at least 10 mph before risking a ticket.



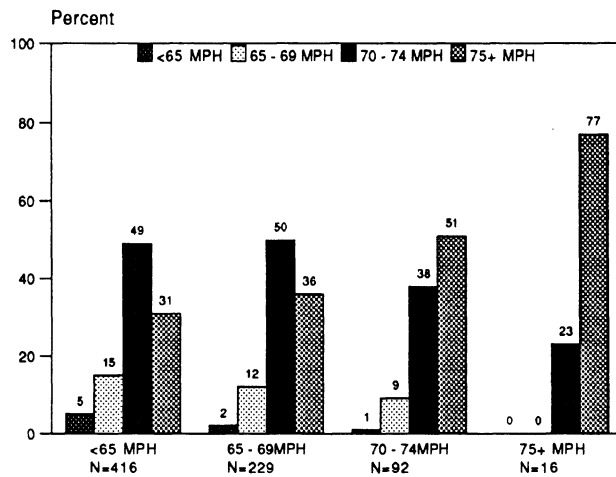
Speed at Which Drivers Will Be Ticketed on Rural Freeways



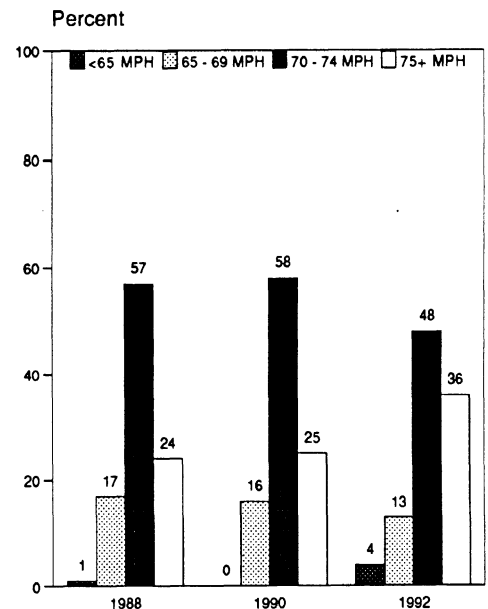
Speed at Which Drivers Will Be Ticketed on Rural Freeways, by Age



Speed at Which Drivers Will Be Ticketed on Rural Freeways, by Annual Miles Driven



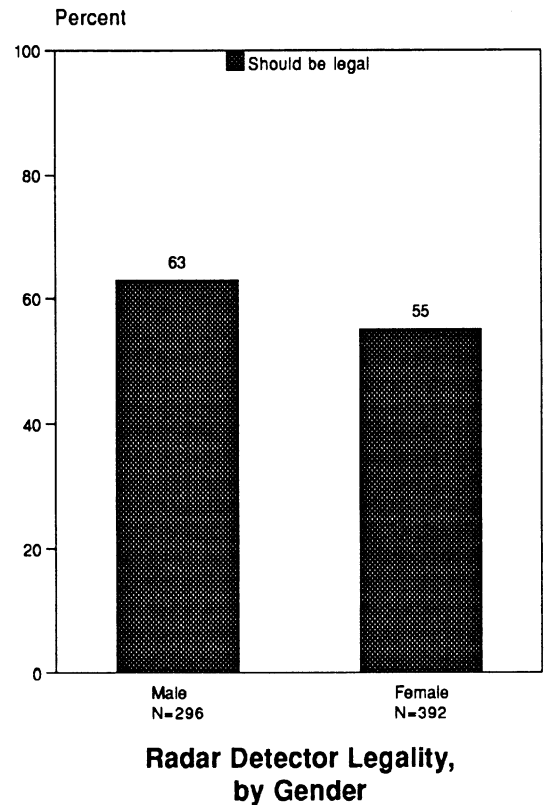
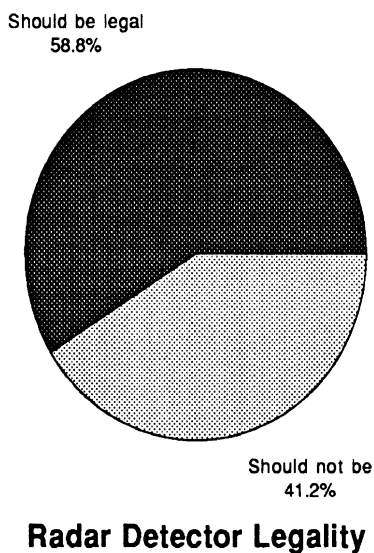
Speed at Which Drivers Will Be Ticketed on Rural Freeways, by Rural Freeway Driving Speeds

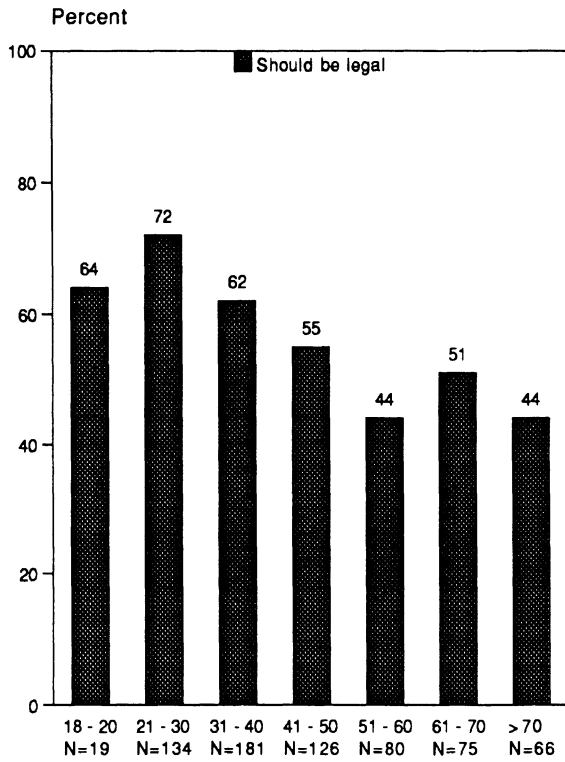


Speed at Which Drivers Will Be Ticketed on Rural Freeways, by Survey Year

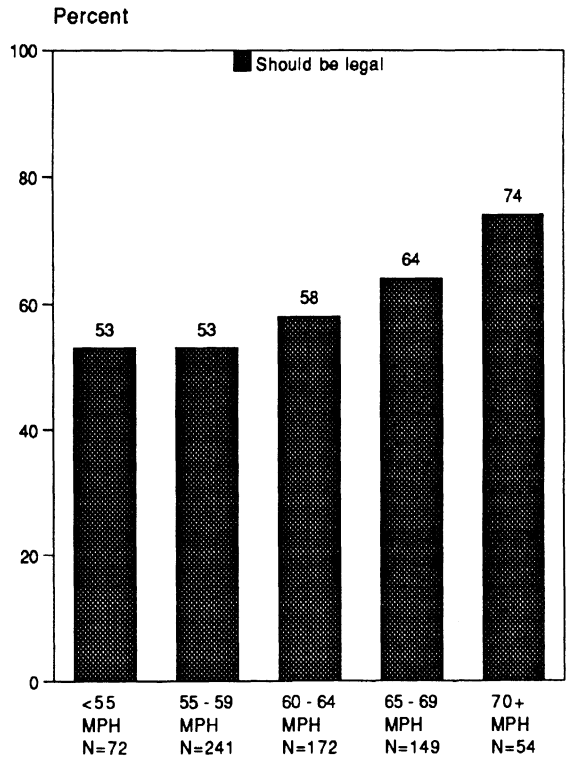
Radars Detectors

Respondents were asked: **Do you think that the use of radar detectors - also called "fuzz busters" - should or should not be legal in Michigan?** A total of 688 respondents gave a valid response to this item. Over half of respondents reported that radar detectors should be legal. Men were more likely than women to favor the legality of radar detectors. Support for the legality of radar detectors peaked among respondents age 21-30 and then declined until age 61. Support generally increased as reported driving speeds increased on both urban and rural freeways in Michigan. Opinions about the legality of radar detectors were not related to annual miles driven or voting status (i.e., whether respondents reported voting in the 1992 presidential election). Support for the legality of radar detectors in 1992 increased from 1987-1990 levels.

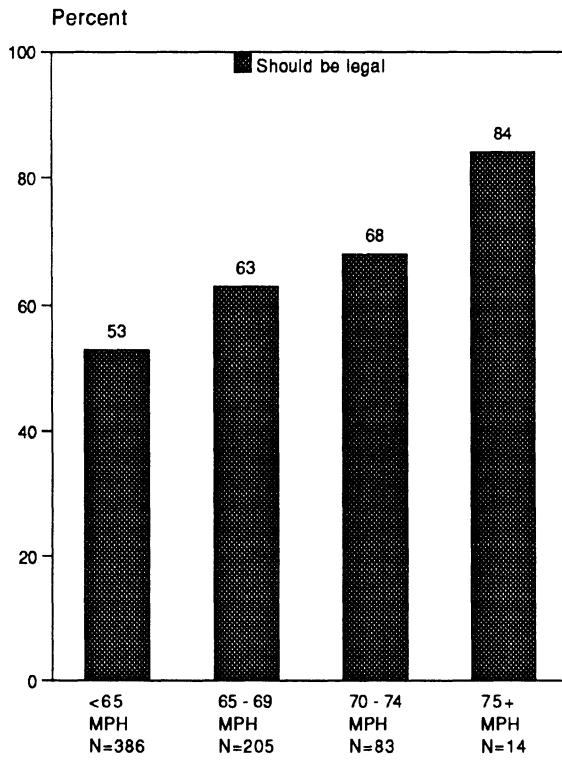




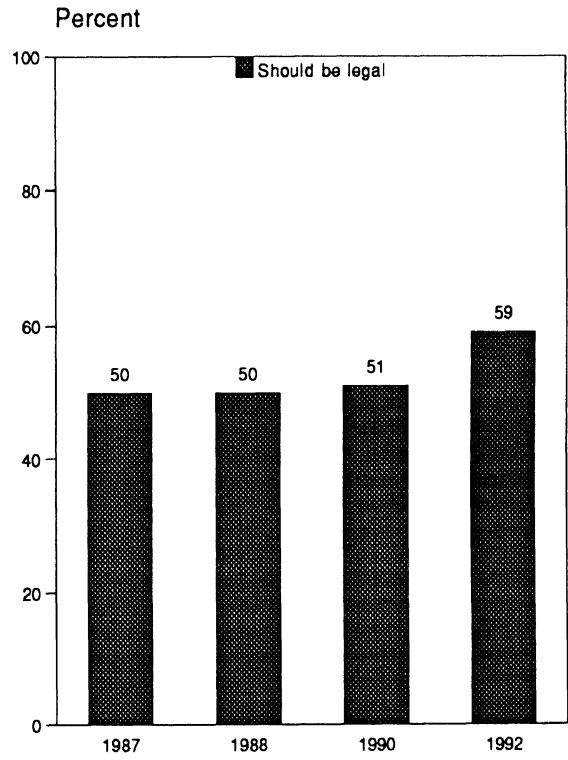
**Radar Detector Legality,
by Age**



**Radar Detector Legality,
by Urban Freeway Driving Speeds**



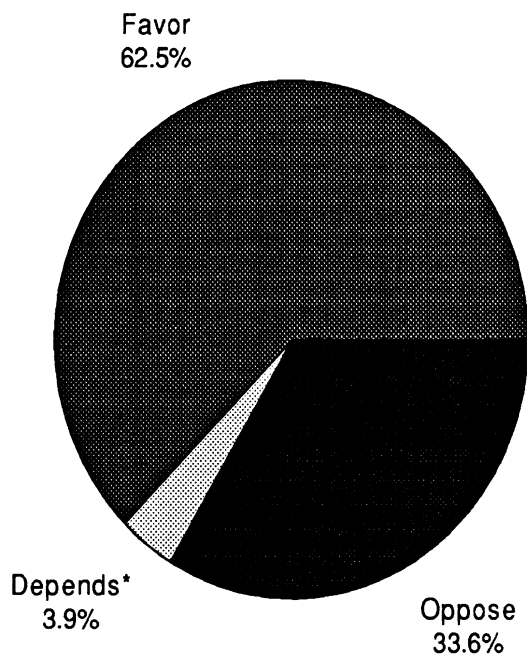
**Radar Detector Legality,
by Rural Freeway Driving Speeds**



**Radar Detector Legality,
by Survey Year**

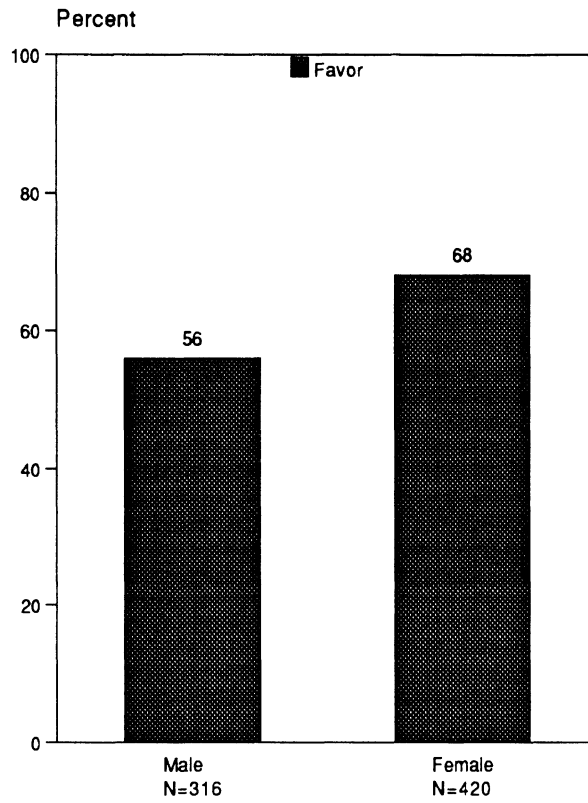
Graduated Driver Licensing for Young Beginning Drivers

Respondents were asked: **Some have suggested that young beginning drivers should become fully licensed gradually. Beginning drivers would be required to move from one level of driver license to another based on both experience and demonstrated skill before becoming fully licensed. Do you favor or oppose such a graduated licensing system for young beginning drivers?** A total of 736 respondents gave a valid response to this item. Almost two-thirds of respondents favored a graduated licensing system for young beginning drivers. Women were more likely than men to support such a system. Support increased with age after age 30, although there was majority support among all age groups. There was no relationship between opinions and voting status or survey year.

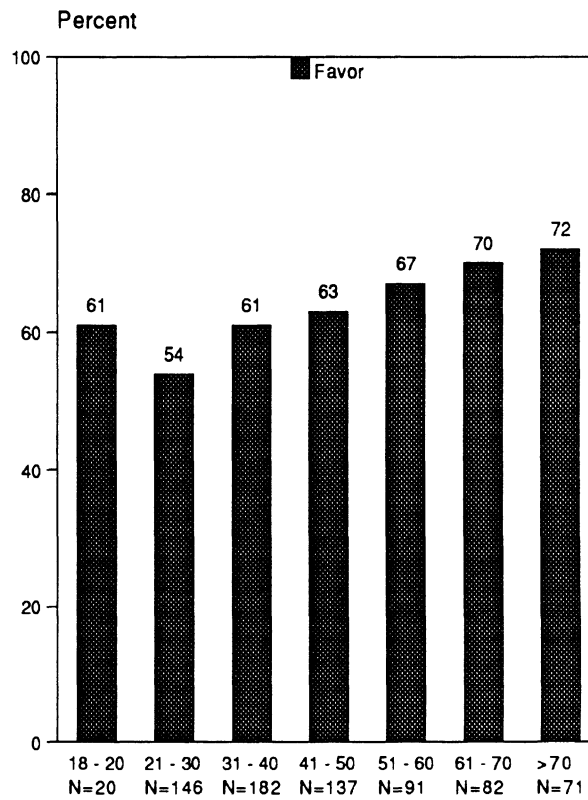


Graduated Driver Licensing for Young Beginning Drivers

*Volunteered response



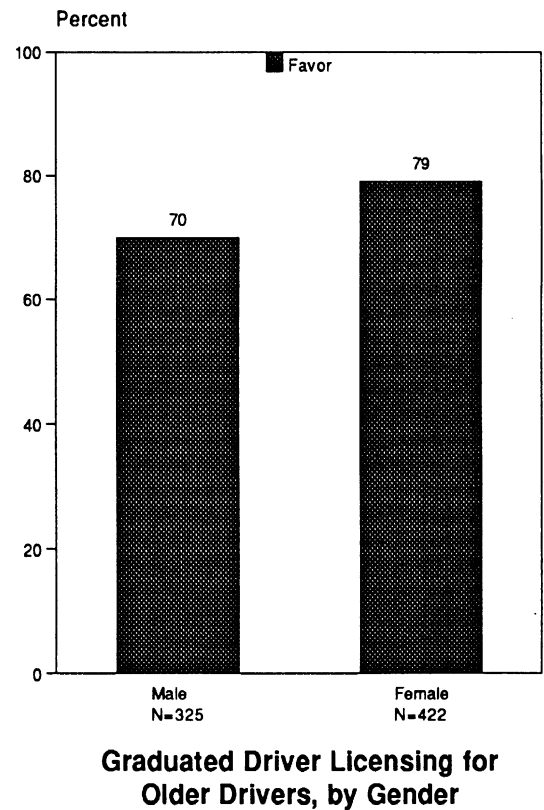
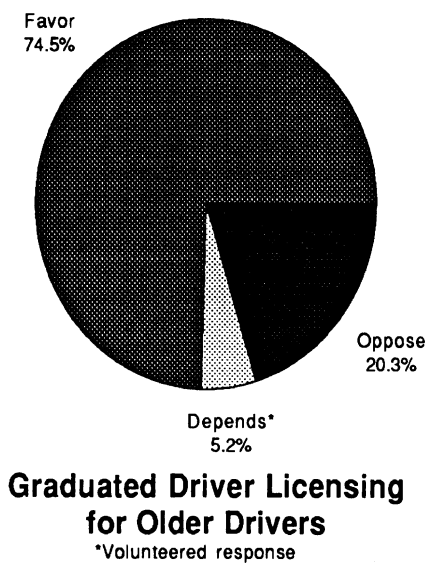
Graduated Driver Licensing for Young Beginning Drivers, by Gender



Graduated Driver Licensing for Young Beginning Drivers, by Age

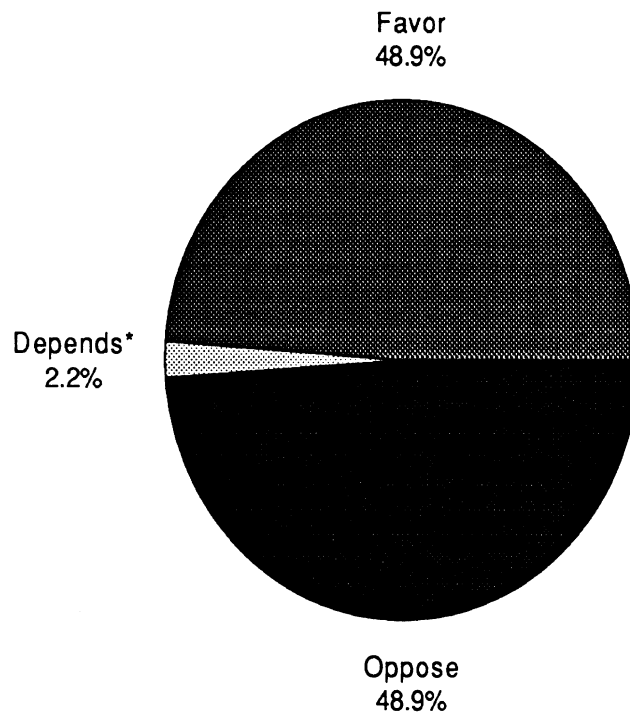
Graduated Driver Licensing for Older Drivers

Respondents were asked: **Some have suggested that older drivers should gradually reduce the amount and kinds of driving they do as driving ability declines. Older drivers would take more frequent driver examinations to identify driving-related problems and driving would be restricted if necessary. Do you favor or oppose such a graduated licensing system for older drivers?** A total of 747 respondents gave a valid response to this item. Almost three-quarters of respondents favored a graduated licensing system for older drivers. Support was stronger among women than men. There was no relationship between opinions and age, voting status, or survey year.



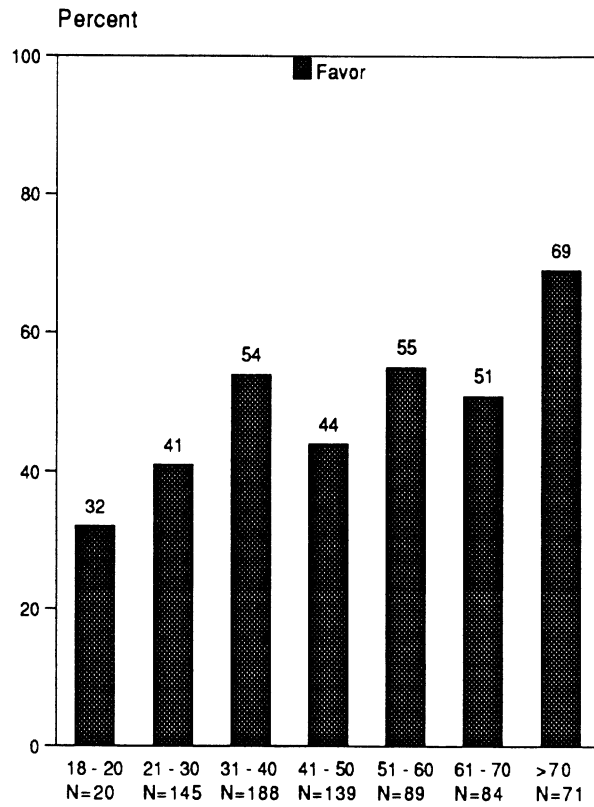
Youth Driving Curfew

Respondents were asked: **Would you favor or oppose a law that would prevent persons under the age of 18 from driving between 11 o'clock at night and 5 o'clock in the morning, unless they could show a need to drive to or from school or work?** A total of 743 respondents gave a valid response to this item. Respondents were evenly split in their support for a youth driving curfew. Respondents age 18-20, those most likely to have peers affected by the curfew, voiced the strongest opposition to such a curfew. Still, nearly a third of this age group favored a youth driving curfew. Among respondents age 21-30 and 41-50, over forty percent favored such a curfew, and there was majority support among all other age groups. Opinions were not related to gender or voting status. Support for a youth driving curfew has declined since 1987.

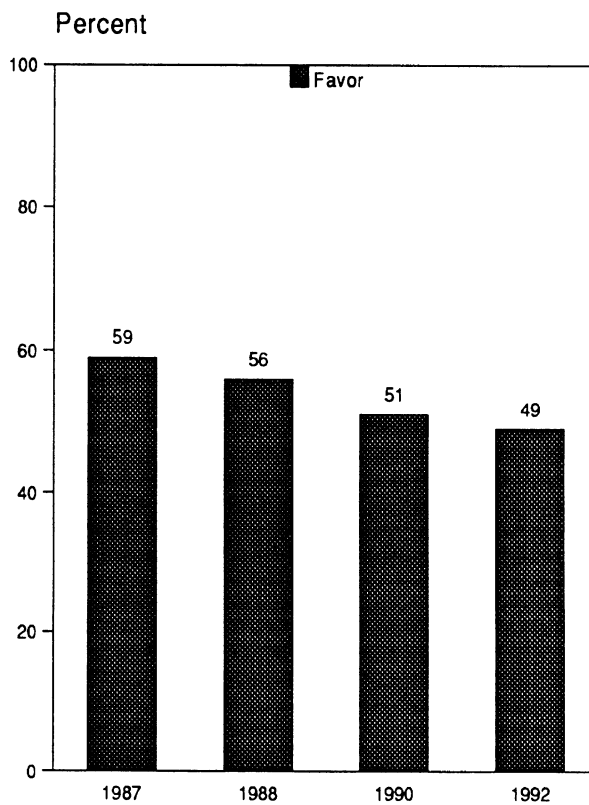


Youth Driving Curfew

*Volunteered response



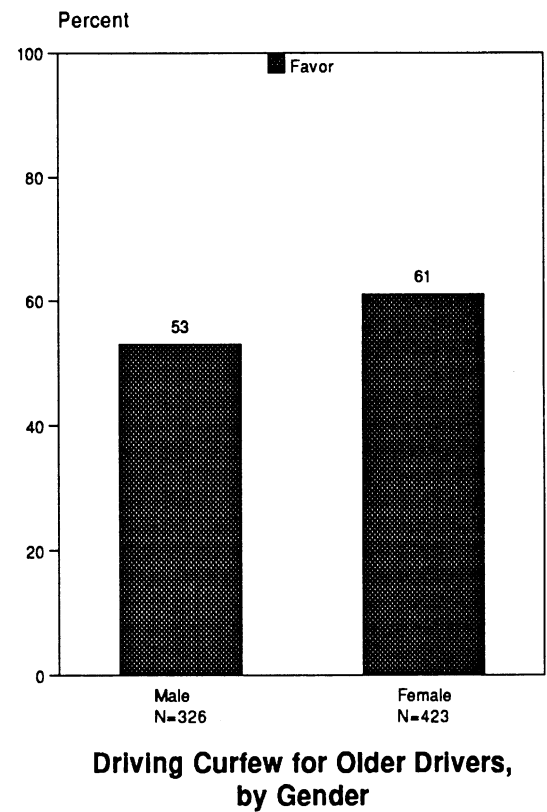
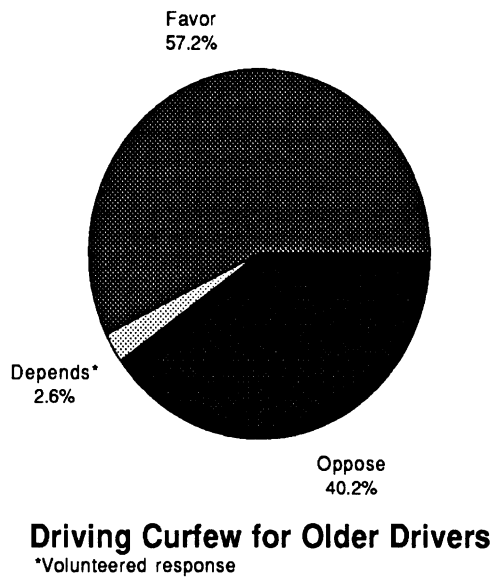
**Youth Driving Curfew,
by Age**



**Youth Driving Curfew,
by Survey Year**

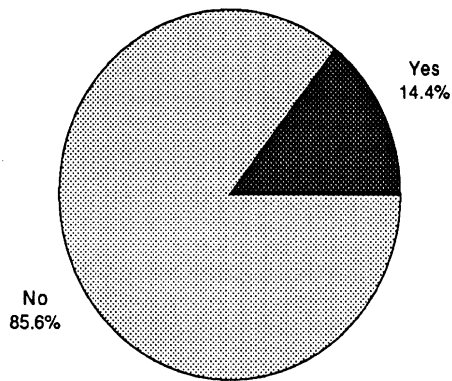
Driving Curfew for Older Drivers

Respondents were asked: **How about persons over the age of 70 - would you favor or oppose a law that would prevent older persons from driving between 11 o'clock at night and 5 o'clock in the morning unless they take a screening exam to show they are fit to drive at night?** A total of 749 respondents gave a valid response to this item. Over half of respondents favored a driving curfew for older drivers. Women were more likely than men to favor such a curfew. There was no relationship between opinions and age or voting status. Support for a driving curfew for older drivers did not change from 1990.

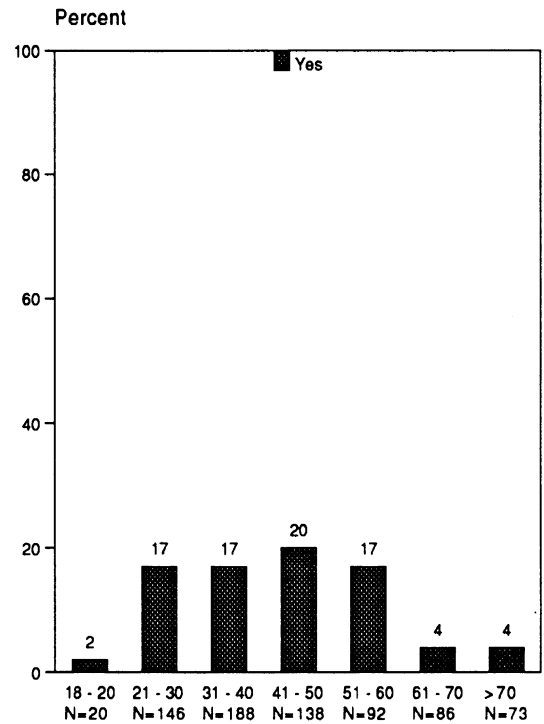


Impaired Driver Ability Due to Advancing Age

Respondents were asked: **Does anyone in your family have trouble driving safely because their driving ability has been affected by their advancing age?** A total of 750 respondents gave a valid response to this item. Most respondents did not know of a family member having trouble driving because their driving ability has been affected by their advancing age. Respondents age 21-60 were more likely than either younger or older respondents to know of a family member having trouble driving. However, within each age group, only a small proportion knew of a family member having trouble driving. There was no relationship between responses and gender or survey year.



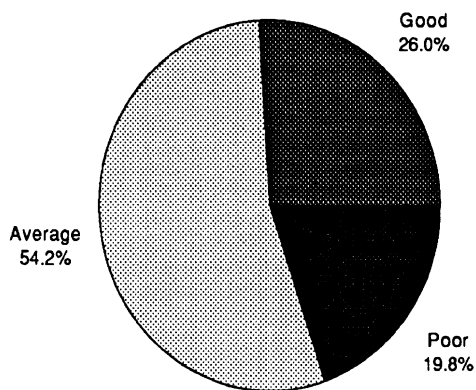
Impaired Driver Ability Due to Advancing Age



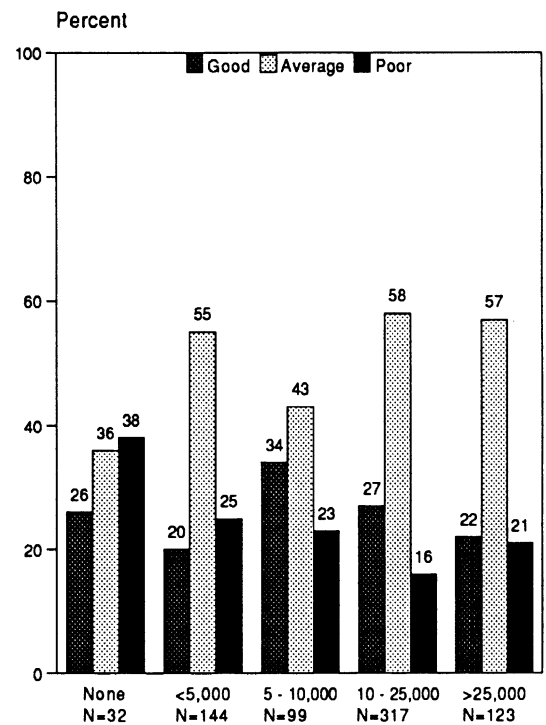
Impaired Driver Ability Due to Advancing Age, by Age

Condition of Freeways

Respondents were asked: **In general, do you think the freeways in Michigan are in good condition, average condition, or poor condition?** A total of 747 respondents gave a valid response to this item. Over half of respondents reported that the freeways are in "average" condition and a quarter indicated they are in "good" condition. The remaining fifth indicated they are in "poor" condition. There was a statistically significant relationship between perceived freeway condition and annual miles driven, but any pattern to this relationship is not clear. There was no relationship between perceived freeway condition and gender or age. Responses to this item changed little between 1987 and 1992.



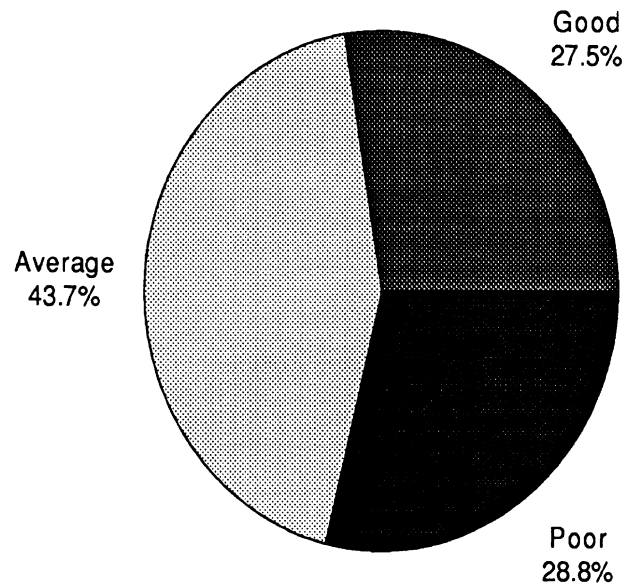
Condition of Freeways



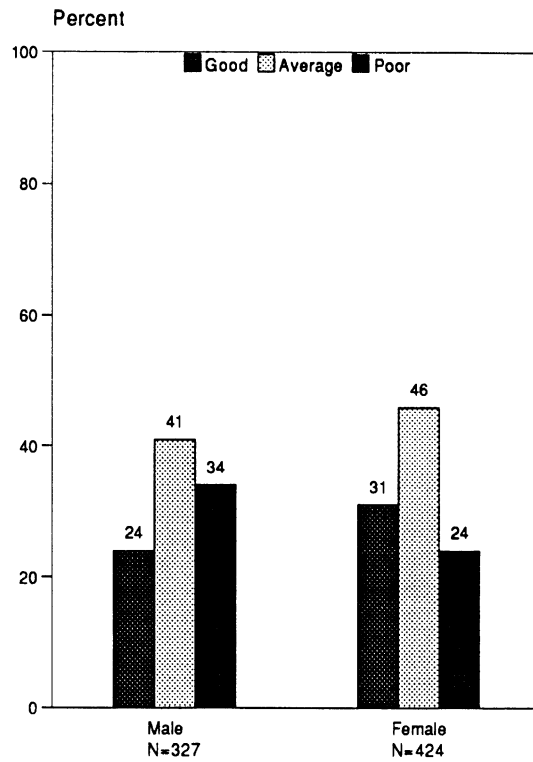
**Condition of Freeways,
by Annual Miles Driven**

Condition of Major Roads

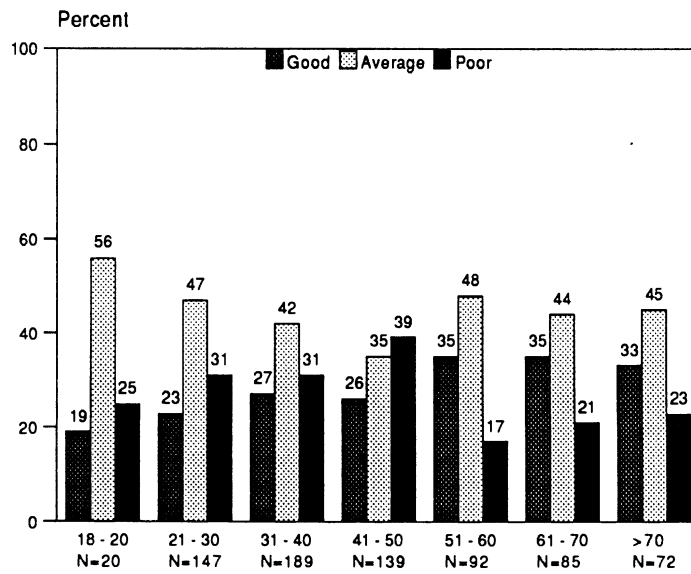
Respondents were asked: **How about the condition of major roads in your area?** A total of 751 respondents gave a valid response to this item. A plurality of respondents reported that the major roads in their area are in "average" condition. The remaining respondents were about evenly split between stating the major roads are in "good" condition and stating they are in "poor" condition. Men were more likely than women to think the major roads are in poor condition and less likely to think they are in good or average condition. Respondents over age 50 were more likely than younger respondents to think the major roads are in good condition. Opinions about the condition of major roads were not related to annual miles driven. Opinions changed little between 1987 and 1992.



Condition of Major Roads



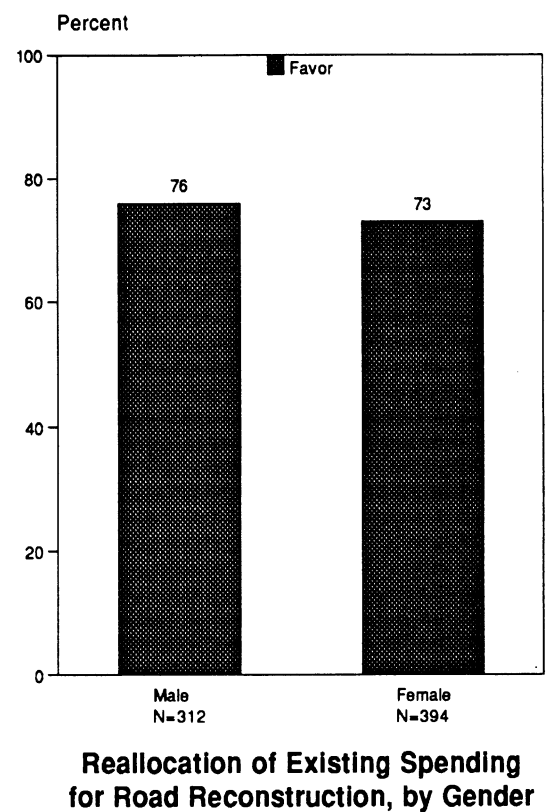
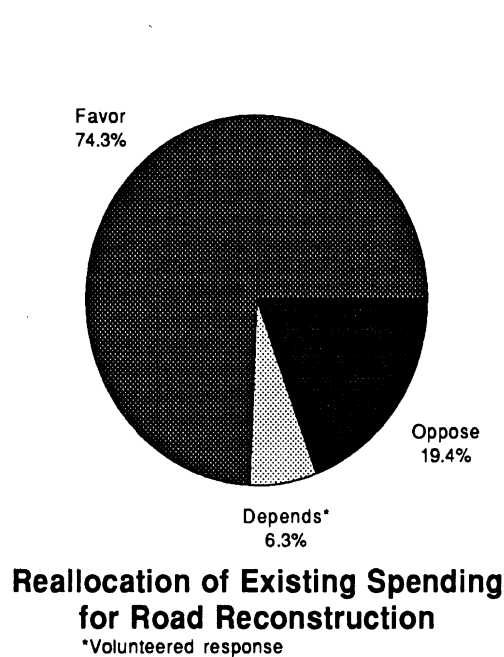
Condition of Major Roads, by Gender



Condition of Major Roads, by Age

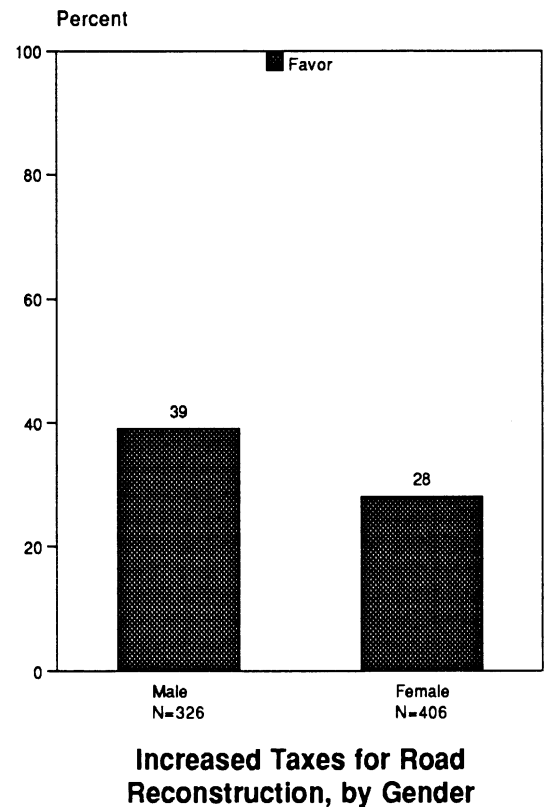
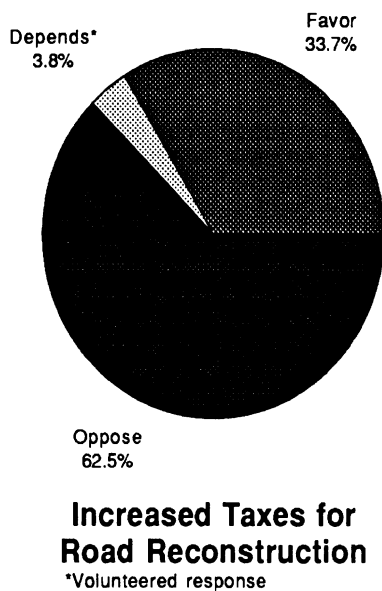
Reallocation of Existing Spending for Road Reconstruction

Respondents were asked: **Do you favor or oppose reallocating existing spending by the state to increase support for road reconstruction projects?** A total of 706 respondents gave a valid response to this item. Almost three-quarters of respondents favored reallocation of existing state spending for road reconstruction projects. Although there was a statistically significant relationship between opinions and gender, about three-quarters of both men and women voiced support for reallocation of existing spending. Opinions were not related to age, annual miles driven, or voting status.



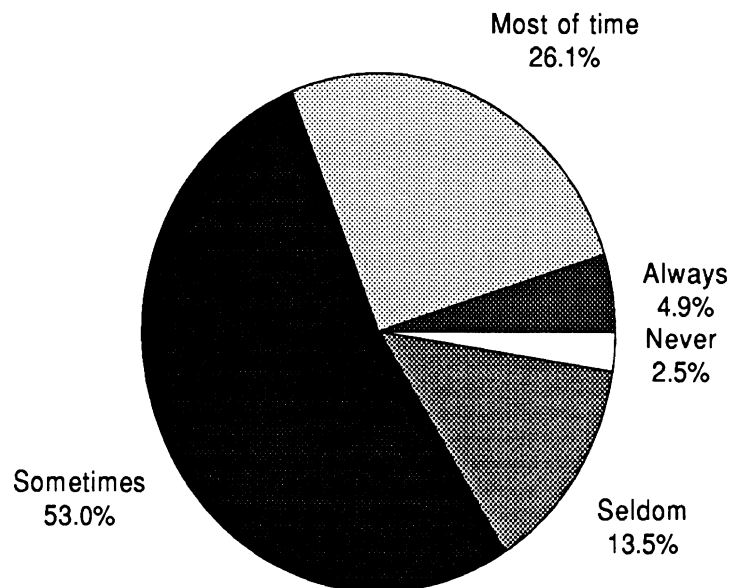
Increased State Taxes for Road Reconstruction

Respondents were asked: **Do you favor or oppose increasing taxes by the state to increase support for road reconstruction projects?** A total of 732 respondents gave a valid response to this item. Almost two-thirds of respondents opposed increased state taxes for road reconstruction projects. Men were more likely than women to support increased taxes; however, neither group voiced majority support. There was no relationship between opinions and age, annual miles driven, or voting status.

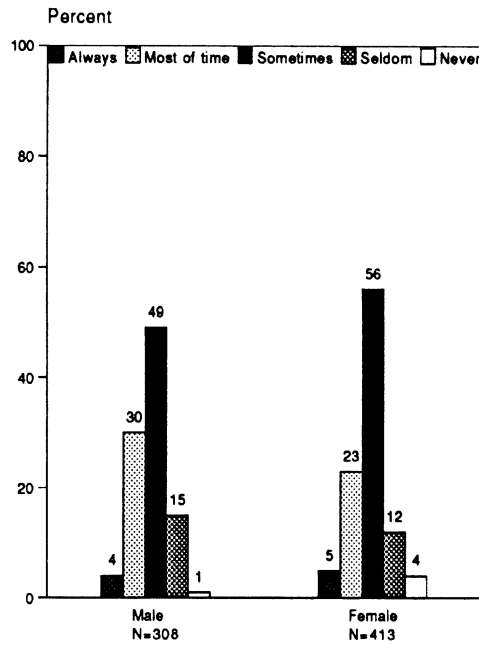


Police Violation of Speed Limits

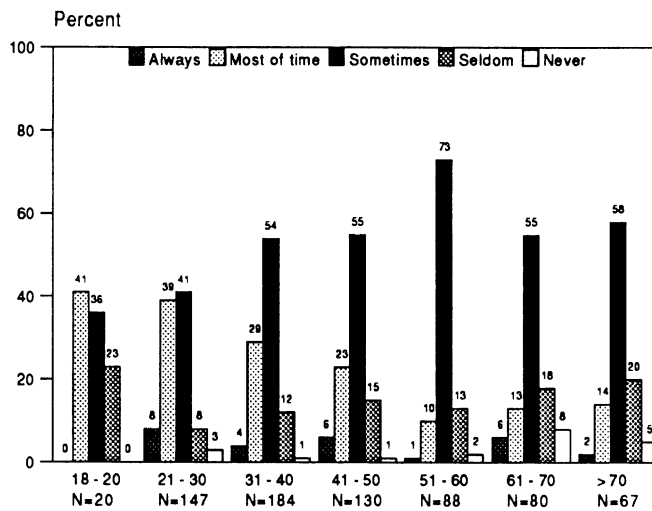
Respondents were asked: **How often do you think police officers driving in police vehicles violate speed limits without any job-related reason? Would you say they violate the speed limit always, most of the time, sometimes, seldom, or never?** A total of 721 respondents gave a valid response to this item. Almost a third of respondents reported that police officers "always" violate speed limits without any job-related reason or violate them "most of the time." Over half of respondents indicated police officers "sometimes" violate speed limits. Men were slightly more likely than women to report police officers always violate speed limits or violate them most of the time. The belief that police officers always violate speed limits or violate them most of the time was highest among respondents age 18-30. In all other age groups, less than a third voiced this belief. Respondents reporting more than 25,000 annual miles driven were more likely than respondents reporting fewer annual miles driven to indicate that police officers always violate speed limits or violate them most of the time.



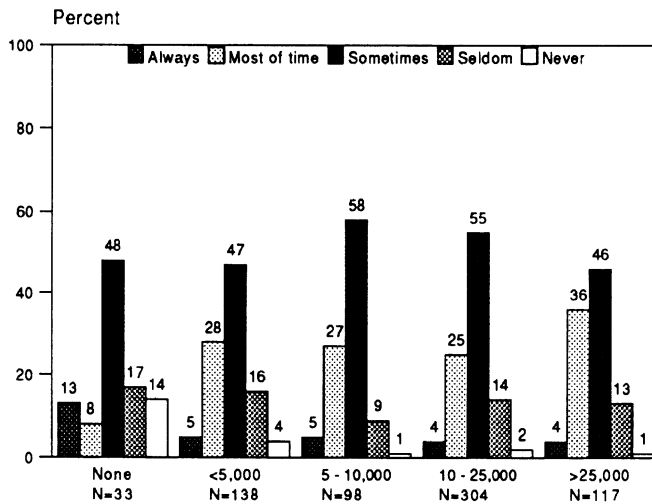
Police Violation of Speed Limits



**Police Violation of Speed Limits,
by Gender**



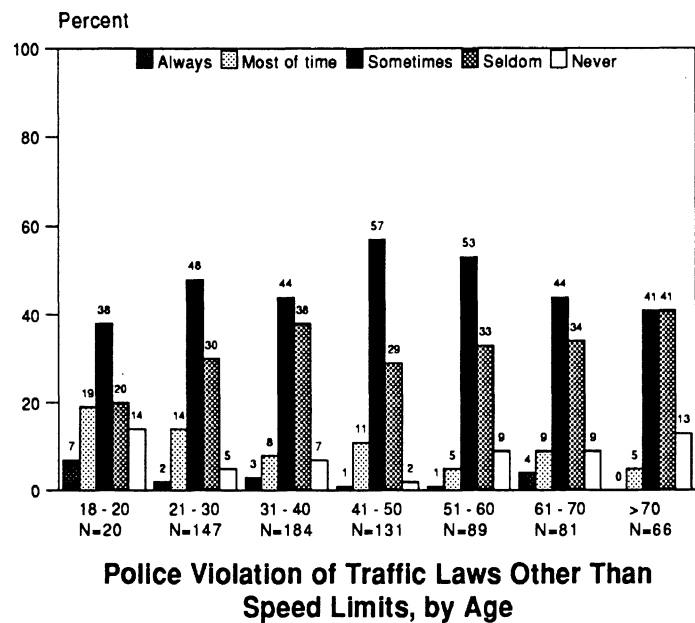
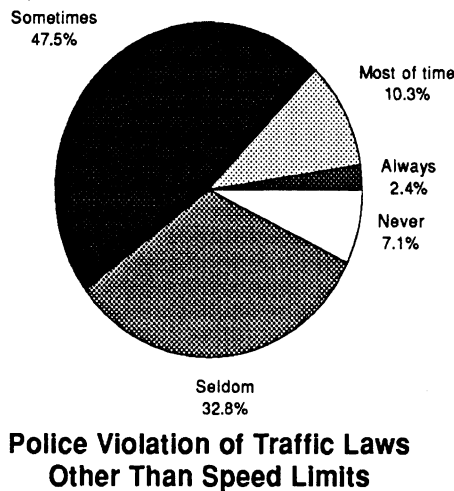
**Police Violation of Speed Limits,
by Age**



**Police Violation of Speed Limits,
by Annual Miles Driven**

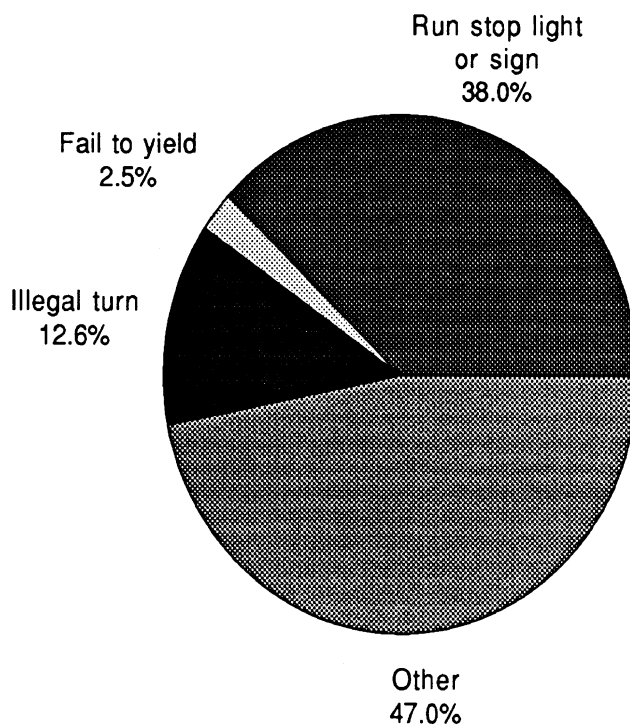
Police Violation of Traffic Laws Other than Speed Limits

Respondents were asked: **How often do you think police officers driving in police vehicles violate traffic laws other than the speed limit without any job-related reason? Would you say they violate traffic laws other than the speed limit always, most of the time, sometimes, seldom, or never?** A total of 723 respondents gave a valid response to this item. A plurality of respondents reported that police officers "sometimes" violate traffic laws other than speed limits. Over a third indicated police "seldom" or "never" violate such laws and less than thirteen percent indicated police "always" violate traffic laws other than speed limits or violate such laws "most of the time." There was a statistically significant, but unclear, relationship between opinions about police violation of traffic laws and age. There was no relationship between opinions and gender or annual miles driven.



Traffic Laws Other than Speed Limits that Police Violate

Respondents who reported that police officers driving in police vehicles violate traffic laws other than the speed limit without any job-related reason were asked: **What other laws do you think they violate?** A total of 674 respondents gave a valid response to this item. The traffic law violation most frequently identified by respondents was running a stop light or sign, followed by illegal turn, and failure to yield. Among 120 respondents who identified more than one violation by police, similar proportions mentioned running a stop light or sign, illegal turn, and failure to yield as the second violation.

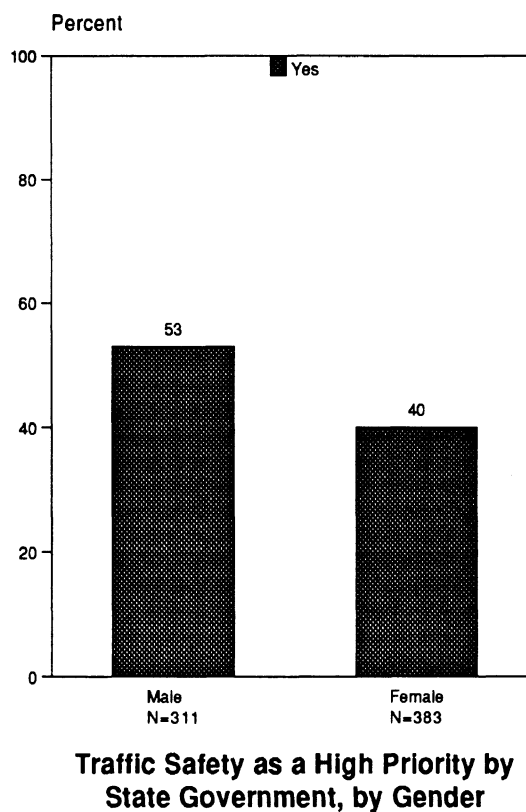
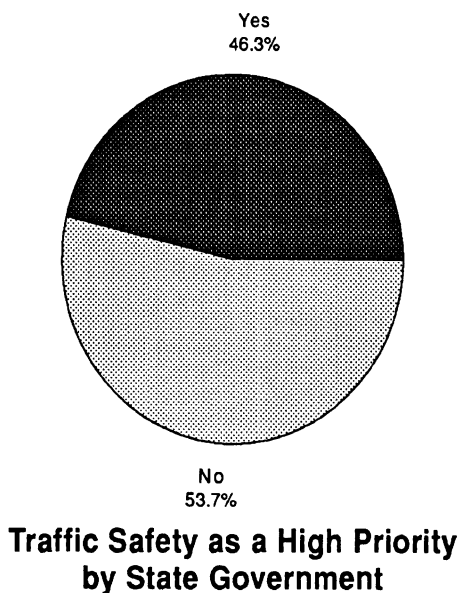


Traffic Laws Other Than Speed Limits That Police Violate

Traffic Safety as a High Priority by State Government

Respondents were asked: **Do you think traffic safety is treated as a high priority by the state government?** A total of 694 respondents gave a valid response to this item.

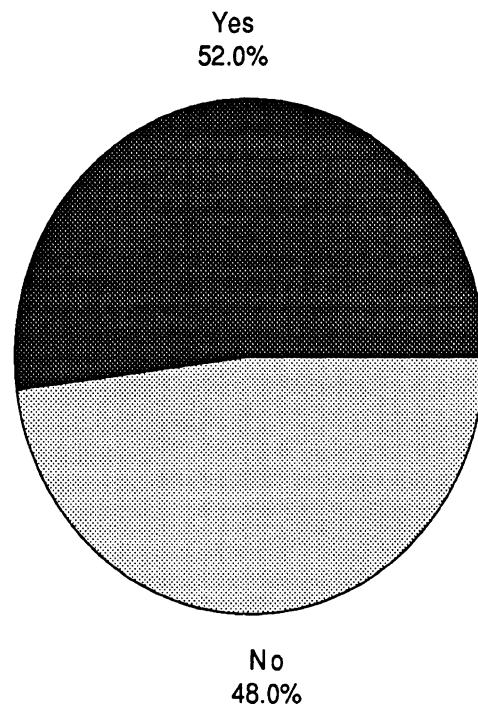
Respondents were about evenly split between reporting that traffic safety is treated as a high priority by state government and reporting that it is not treated as a high priority by state government. A majority of men indicated traffic safety is treated as a high priority, while a majority of women did not. Opinions were not related to age or annual miles driven.



Traffic Safety as a High Priority by Local Government

Respondents were asked: **Do you think traffic safety is treated as a high priority by your local government?** A total of 716 respondents gave a valid response to this item.

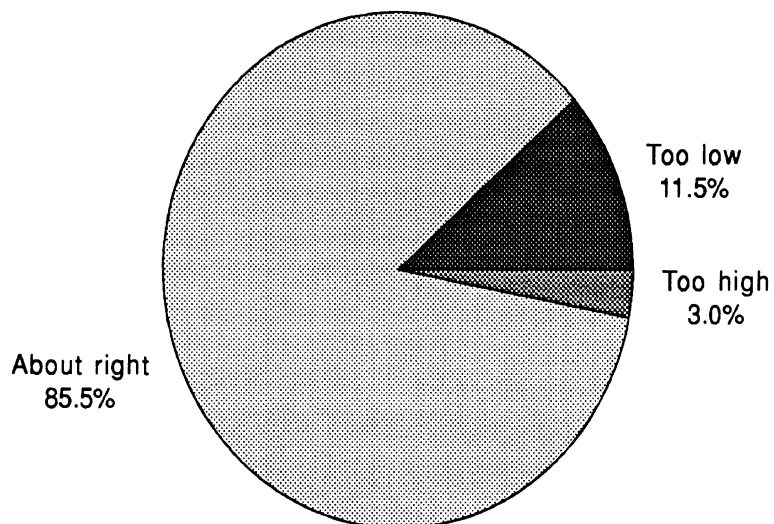
Respondents were about evenly split between reporting that traffic safety is treated as a high priority by local government and reporting that it is not treated as a high priority by local government. Opinions were not related to gender, age, or annual miles driven.



**Traffic Safety as a High Priority
by Local Government**

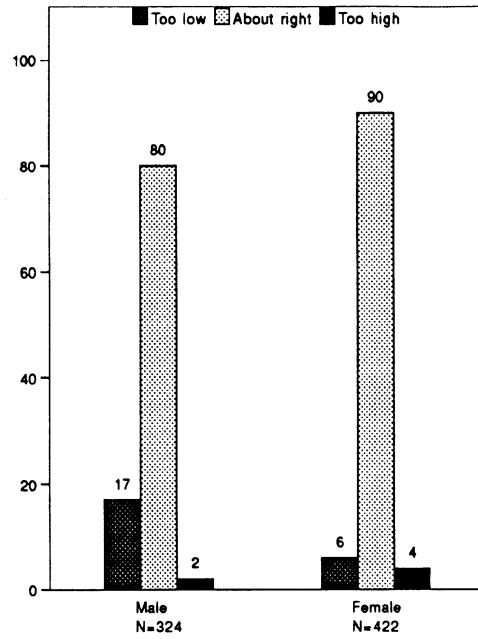
Speed Limits on Freeways

Respondents were asked: **In general, do you think the speed limits on Michigan's freeways are set too high, too low, or about right?** A total of 746 respondents gave a valid response to this item. Most respondents reported that freeway speed limits in Michigan are set "about right." Women were more likely than men to indicate speed limits are set about right and less likely to indicate speed limits are set "too low." Although opinions were related to age, more than three-quarters of every age group reported that freeway speed limits are set about right. Respondents who reported driving at least 70 mph on urban freeways were more than twice as likely as respondents who reported lower driving speeds to indicate speed limits are set too low. Opinions about freeway speed limits were not related to rural freeway driving speeds or annual miles driven.



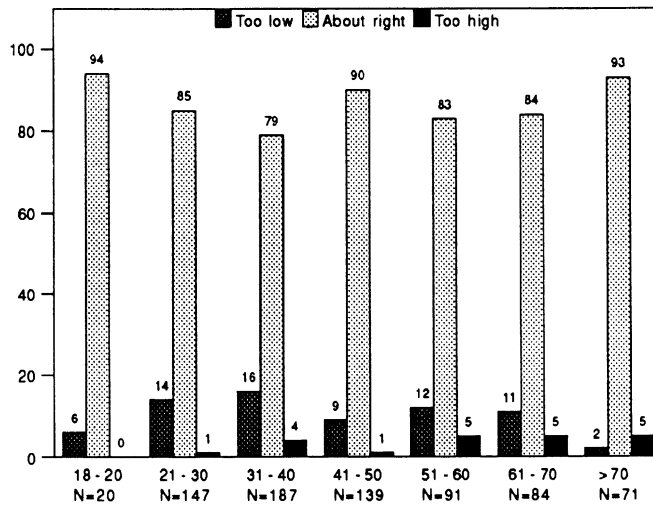
Speed Limits on Freeways

Percent



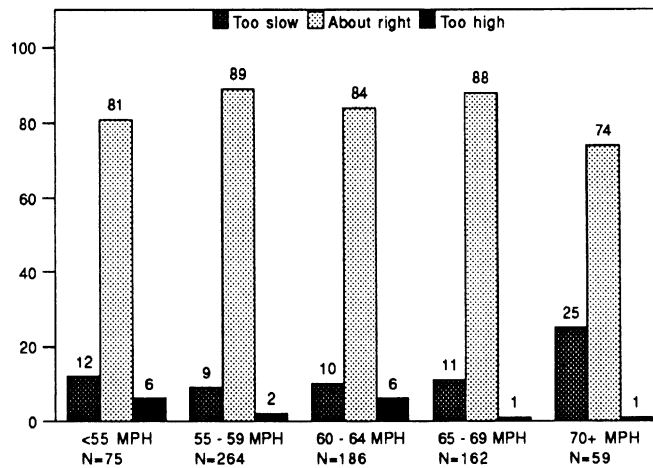
Speed Limits on Freeways, by Gender

Percent



Speed Limits on Freeways, by Age

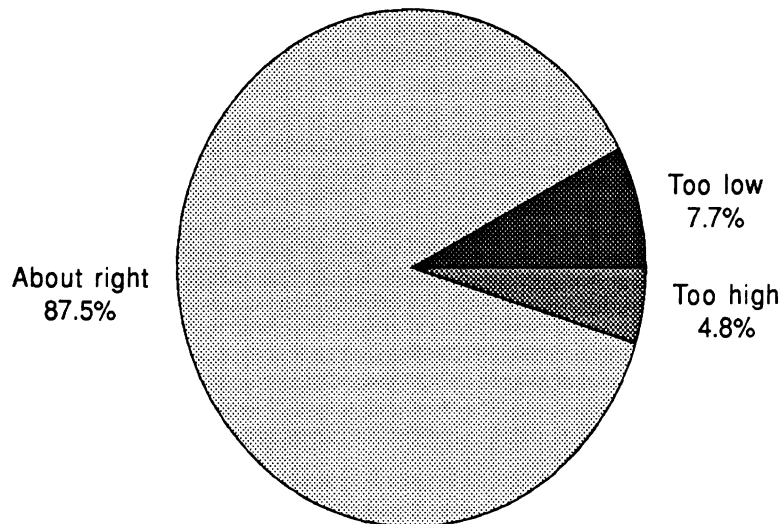
Percent



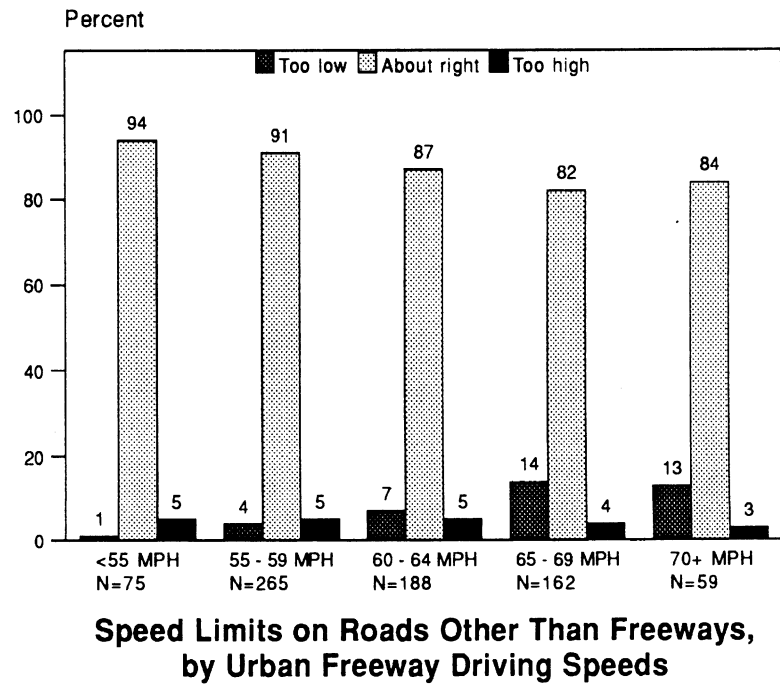
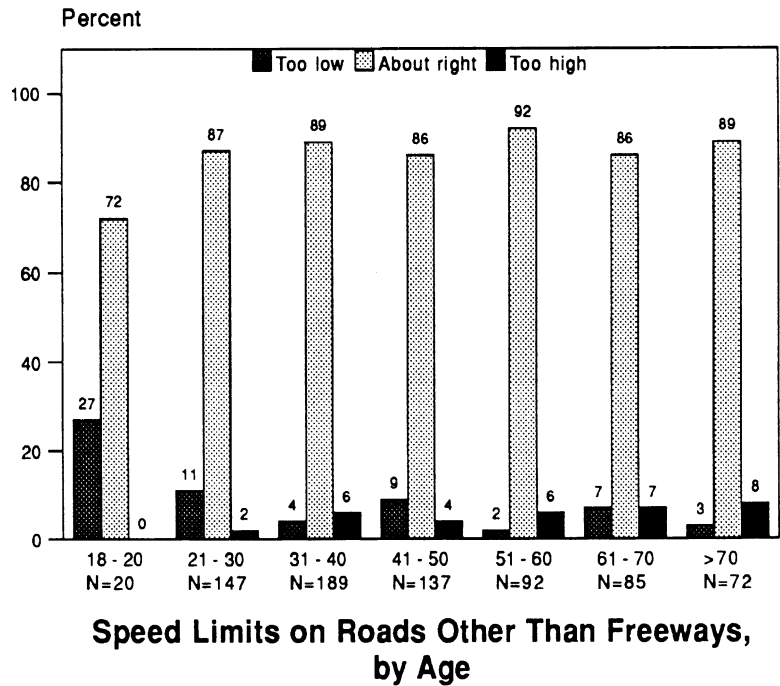
Speed Limits on Freeways, by Urban Freeway Driving Speeds

Speed Limits on Roads Other than Freeways

Respondents were asked: **In general, do you think the speed limits on the roads in your area other than freeways are set too high, too low, or about right?** A total of 749 respondents gave a valid response to this item. Most respondents reported that speed limits on local roads in Michigan are set "about right." Among all age groups, except the 18-20 age group, over three-quarters of respondents indicated speed limits are set about right. Among those age 18-20, over a quarter indicated speed limits are set "too low." Respondents who reported driving at least 65 mph on Michigan's urban freeways were more likely than respondents reporting lower driving speeds to indicate speed limits are set too low. Opinions were not related to rural freeway driving speeds, gender, or annual miles driven.

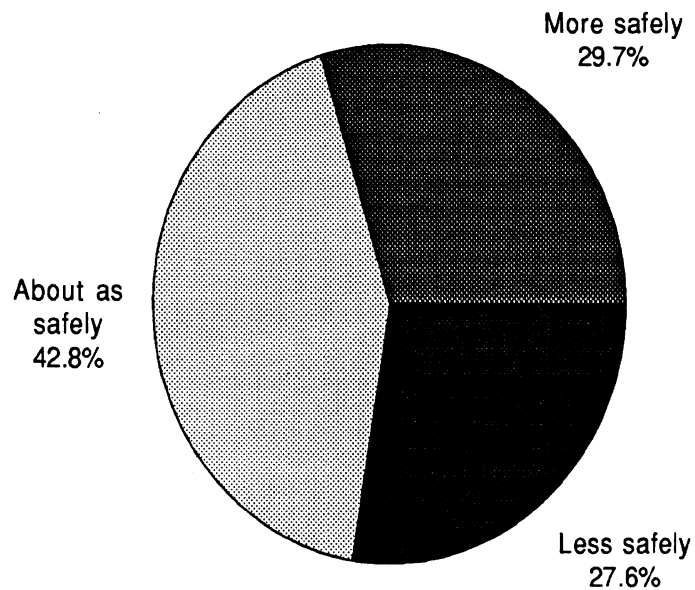


**Speed Limits on Roads
Other Than Freeways**

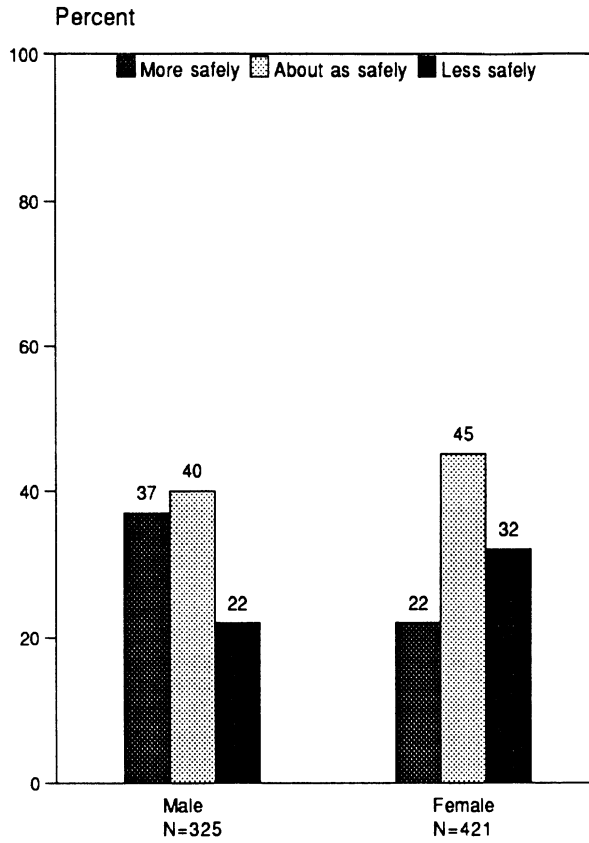


Safety of Truck Drivers

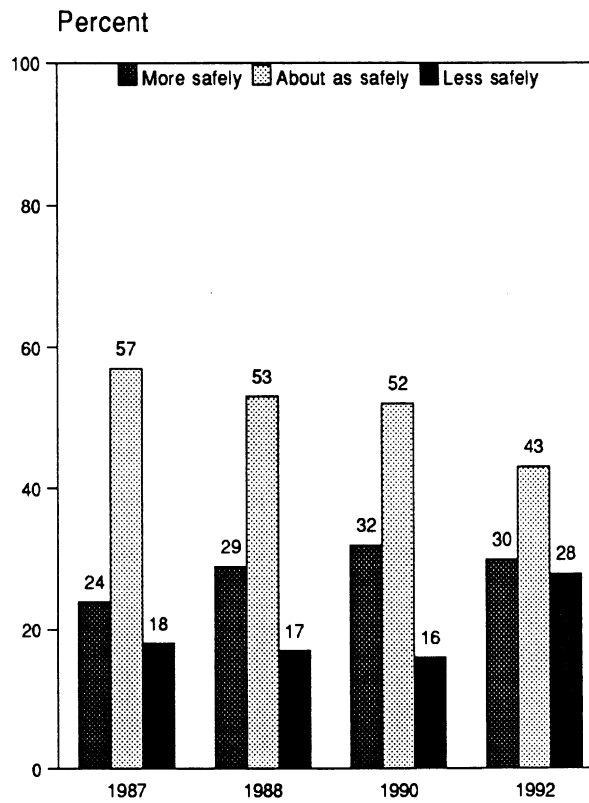
Respondents were asked: **Compared to most car drivers, would you say that drivers of semi-trailer trucks drive more safely, less safely, or about as safely?** A total of 746 respondents gave a valid response to this item. A plurality of respondents reported that truck drivers drive "about as safely" as car drivers. The remaining respondents were about evenly split between reporting that truck drivers drive "more safely" and reporting they drive "less safely" than car drivers. Men were more likely than women to indicate truck drivers drive more safely than car drivers and less likely to indicate they drive as safely or less safely. Opinions were not related to age or annual miles driven. There has been an increase in the proportion of respondents reporting that truck drivers drive less safely than car drivers from previous survey years, and a decline in the proportion reporting that truck drivers drive as safely as car drivers.



Safety of Truck Drivers



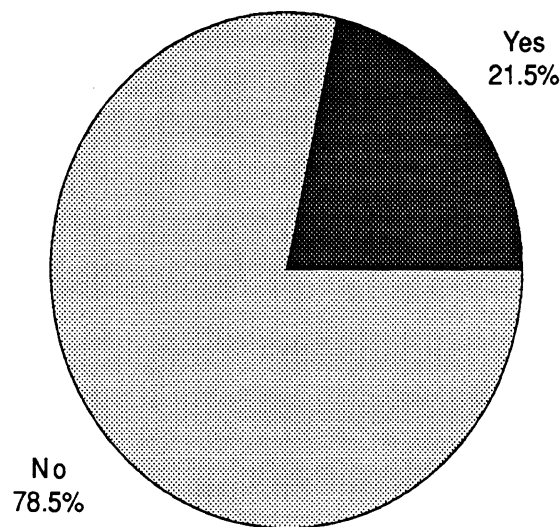
Safety of Truck Drivers, by Gender



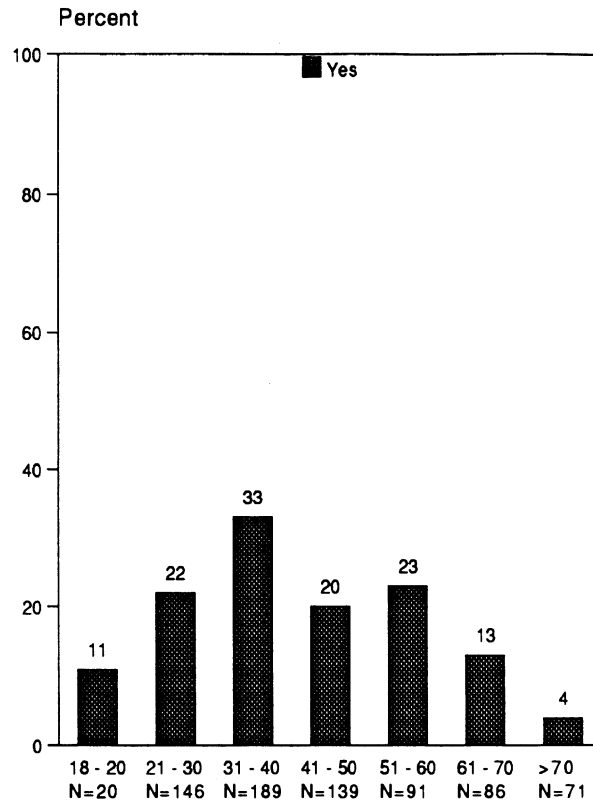
Safety of Truck Drivers, by Survey Year

Damage from Objects Falling from Trucks

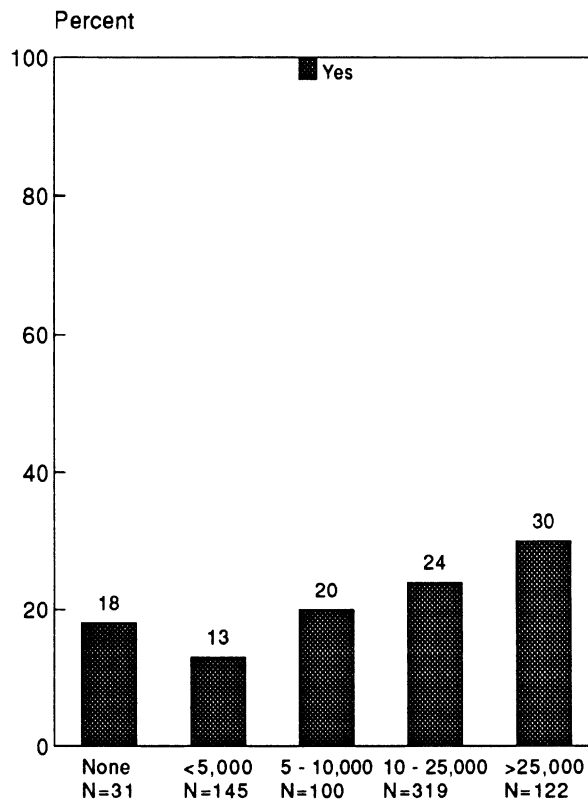
Respondents were asked: **In the past 12 months, has your vehicle been damaged because it was hit by an object coming off or falling off a semi-trailer truck?** A total of 749 respondents gave a valid response to this item. Less than a quarter of respondents reported vehicle damage from an object coming off or falling off a semi-trailer truck. The youngest and oldest age groups were least likely to report such damage. Among respondents who reported driving, the likelihood of reporting vehicle damage increased with annual miles driven. Responses were not related to gender.



Damage from Objects Falling from Trucks



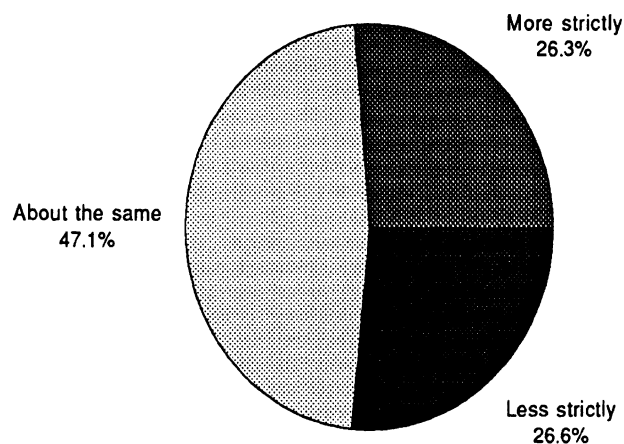
Damage From Objects Falling From Trucks, by Age



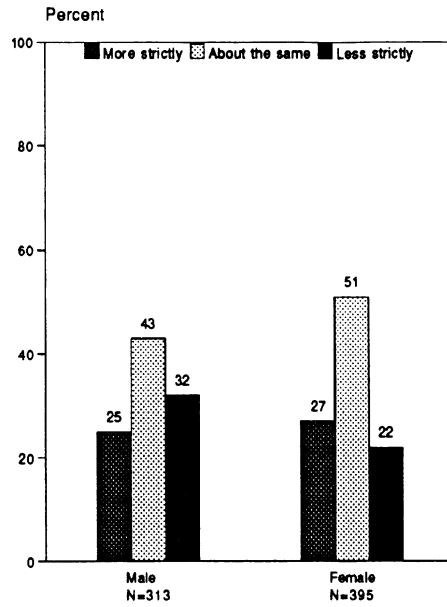
Damage From Objects Falling From Trucks, by Miles Driven

Enforcement of Traffic Laws for Truck Drivers

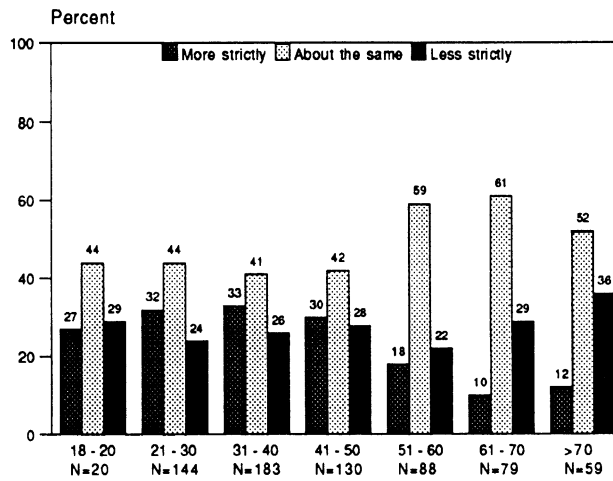
Respondents were asked: **Do you think police enforce traffic laws more strictly, less strictly, or about the same for drivers of semi-trailer trucks as they do for car drivers?** A total of 708 respondents gave a valid response to this item. Almost half of respondents reported that laws are enforced "about the same" for truck drivers and car drivers. The remaining respondents were evenly split in reporting that laws are "more strictly" enforced and that laws are "less strictly" enforced for truck drivers than car drivers. Women were more likely than men to indicate laws are enforced about the same for truck drivers and car drivers and less likely to indicate laws are enforced less strictly. Respondents age 50 and under were more likely than older respondents to indicate laws are more strictly enforced for truck drivers and less likely to indicate they are enforced about the same. Respondents who reported that truck drivers drive more safely than car drivers were more than three times as likely as respondents who reported truck drivers drive less safely to indicate that laws are enforced more strictly for truck drivers. Conversely, respondents who reported truck drivers drive less safely than car drivers were more than twice as likely as respondents who reported truck drivers drive more safely than car drivers to indicate laws are enforced less strictly for truck drivers. Opinions were not related to annual miles driven and have changed little since 1987.



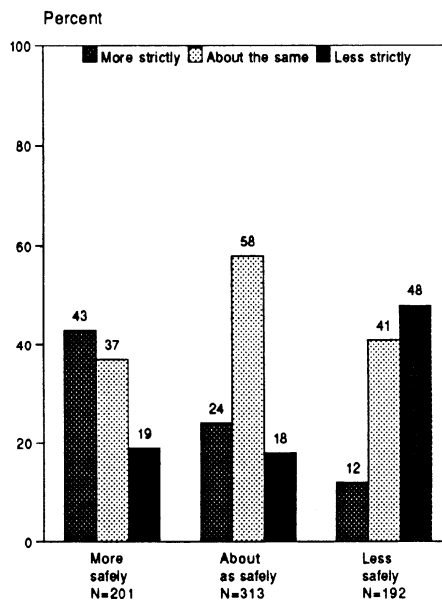
**Enforcement of Traffic Laws
for Truck Drivers**



Enforcement of Traffic Laws for Truck Drivers, by Gender



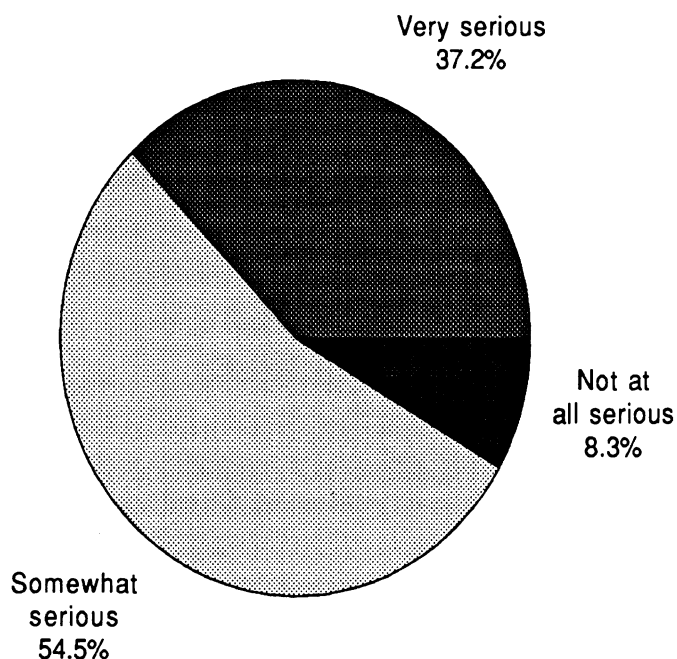
Enforcement of Traffic Laws for Truck Drivers, by Age



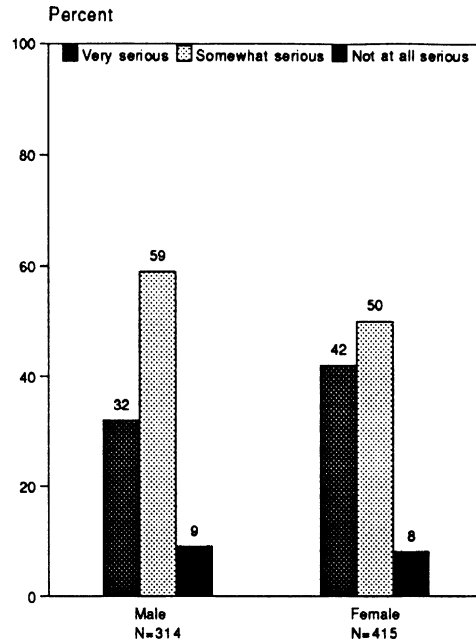
Enforcement of Traffic Laws for Truck Drivers, by Safety of Truck Drivers

Seriousness of Alcohol-Impaired Driving Problem

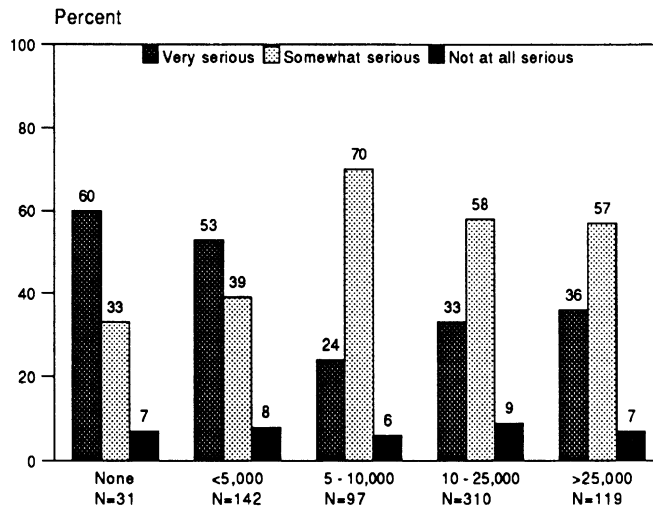
Respondents were asked: **How serious do you think the drunk driving problem is in your community - would you say it is very serious, somewhat serious, or not at all serious?** A total of 729 respondents gave a valid response to this item. Over ninety percent of respondents reported that the alcohol-impaired driving problem in their community is "somewhat serious" or "very serious." The likelihood of viewing the problem as very serious was higher among women than men and higher among respondents reporting less than 5,000 annual miles driven than among respondents reporting more annual miles driven. However, less than ten percent of respondents within each gender and mileage group indicated the problem was "not at all serious." Nondrinkers were more likely than drinkers to view the problem as very serious. However, no more than ten percent of any group indicated the problem was not at all serious except the group reporting drinking once a week. Perceptions about the seriousness of the alcohol-impaired driving problem were not related to age or survey year.



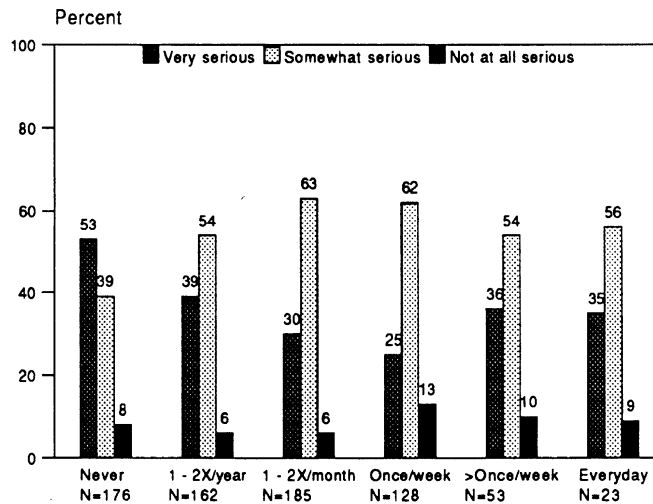
Seriousness of Alcohol-Impaired Driving Problem



Seriousness of Alcohol-Impaired Driving Problem, by Gender



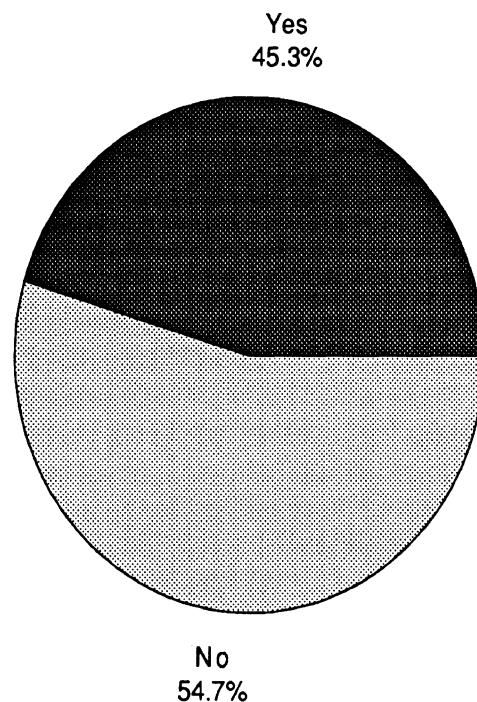
Seriousness of Alcohol-Impaired Driving Problem, by Annual Miles Driven



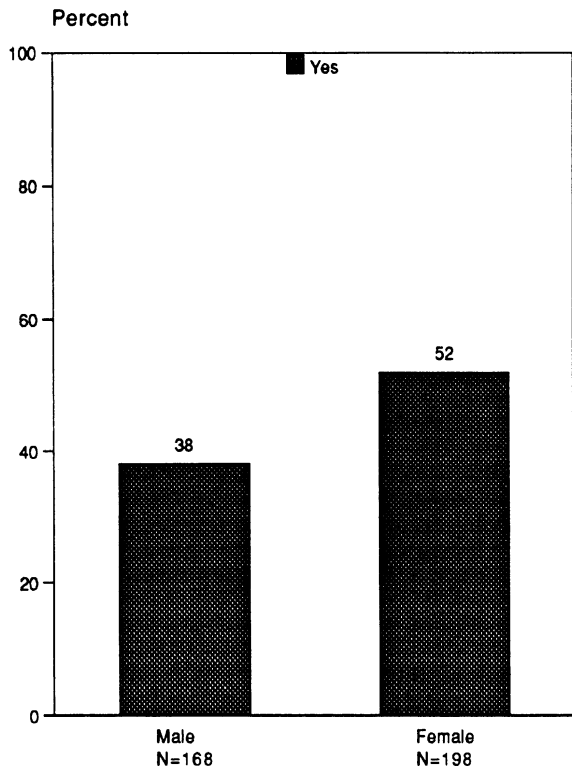
Seriousness of Alcohol-Impaired Driving Problem, by Frequency of Drinking

Accountability of Alcoholic Beverage Servers

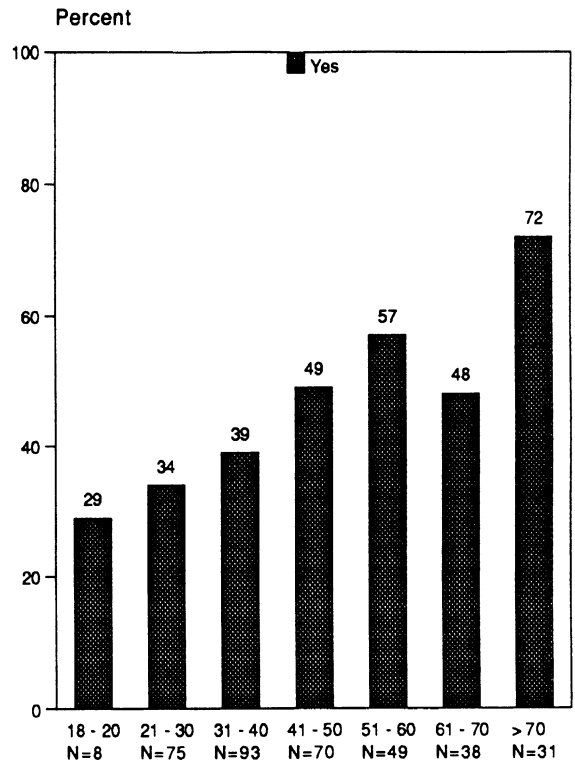
Two versions of this item were used in the 1992 survey to determine effects of minor changes in wording on response patterns. The first version was identical to the item in the 1990 survey. Using this version, half of respondents were asked: **If a customer gets drunk, leaves a restaurant or bar, and injures someone in a car crash, do you think the person who served the drinks to the customer should be held accountable for at least some of the damages caused by the customer?** A total of 366 respondents gave a valid response to this item. Over half of respondents reported that alcoholic beverage servers should **not** be held accountable. Support for server accountability was higher among women than men, with a majority of women in favor of such accountability. Support increased with age, with the exception of respondents age 61-70, and decreased with annual miles driven. Opinions were not related to the perceived seriousness of the alcohol-impaired driving problem or voting status. Support for accountability of alcoholic beverage servers declined slightly from 1990.



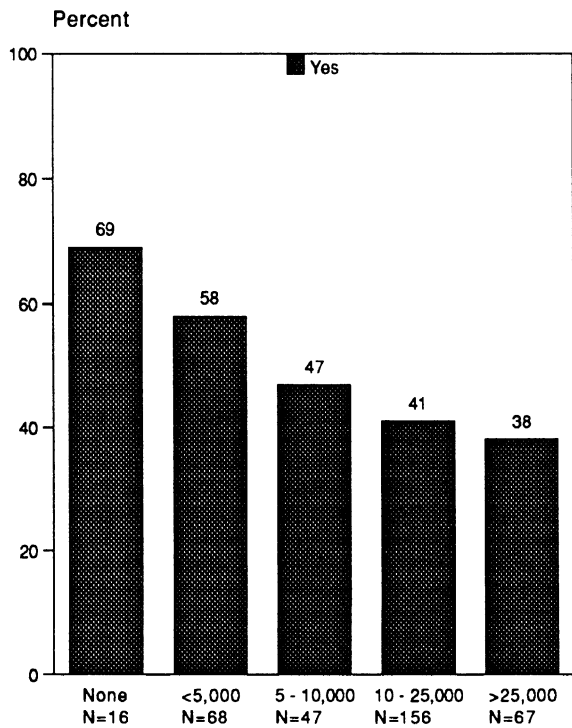
**Accountability of Alcoholic
Beverage Servers
(Customer Injures Someone in a Car Crash)**



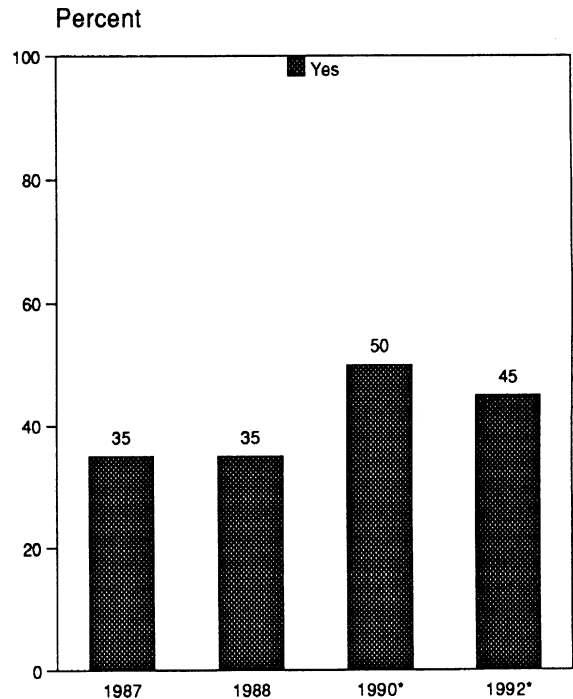
Accountability of Alcoholic Beverage Servers (Customer Car Crash), by Gender



Accountability of Alcoholic Beverage Servers (Customer Car Crash), by Age



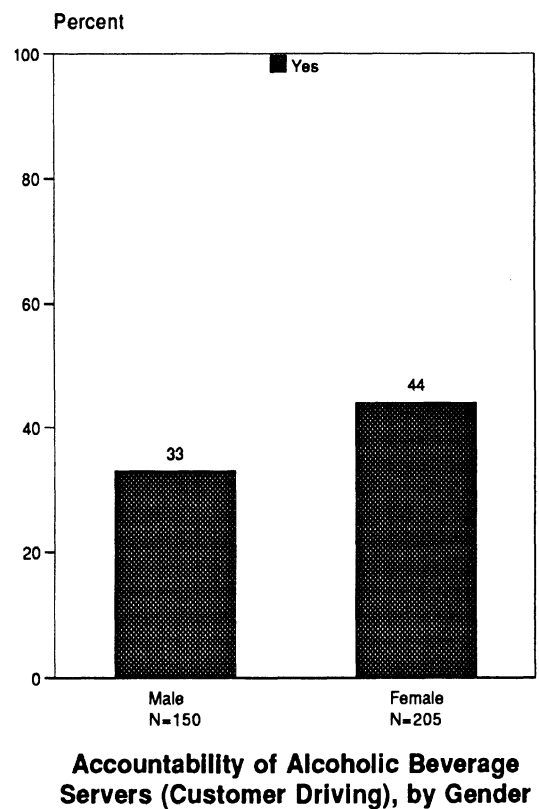
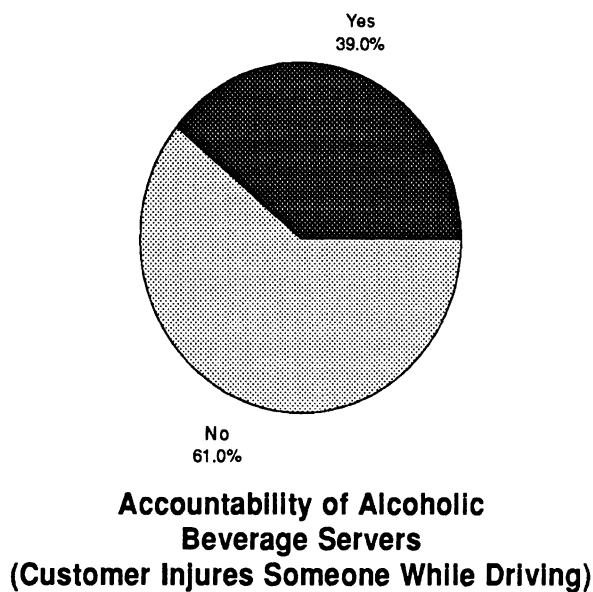
Accountability of Alcoholic Beverage Servers (Customer Car Crash), by Annual Miles Driven



Accountability of Alcoholic Beverage Servers (Customer Crash) by Survey Year

*Slight wording change

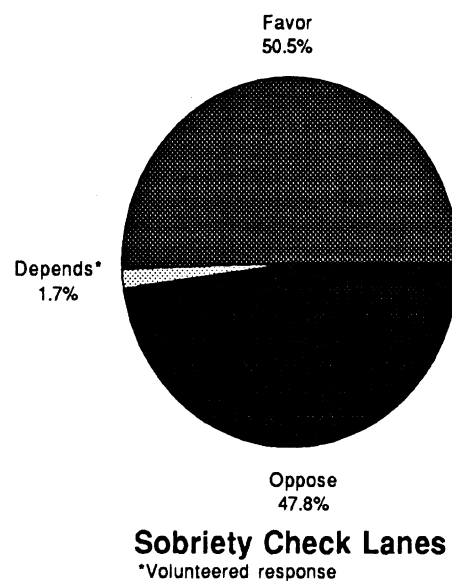
The other half of respondents were asked: **If a customer gets drunk, leaves a restaurant or bar, and injures someone while driving, do you think the person who served the drinks to the customer should be held accountable for at least some of the damages caused by the customer?** A total of 355 respondents gave a valid response to this item. Over sixty percent of respondents reported that alcoholic beverage servers should **not** be accountable, a slightly greater proportion than opposed server accountability in the first version of this item. Support for accountability of servers was higher among women than men, although neither group voiced majority support. Opinions were not related to age, annual miles driven, voting status, or the perceived seriousness of the alcohol-impaired driving problem. It would appear that item wording had a significant impact on responses to these two items. Inclusion of the phrase "in a car crash" rather than "while driving" increased respondent willingness to hold the server accountable for damages caused by the customer.

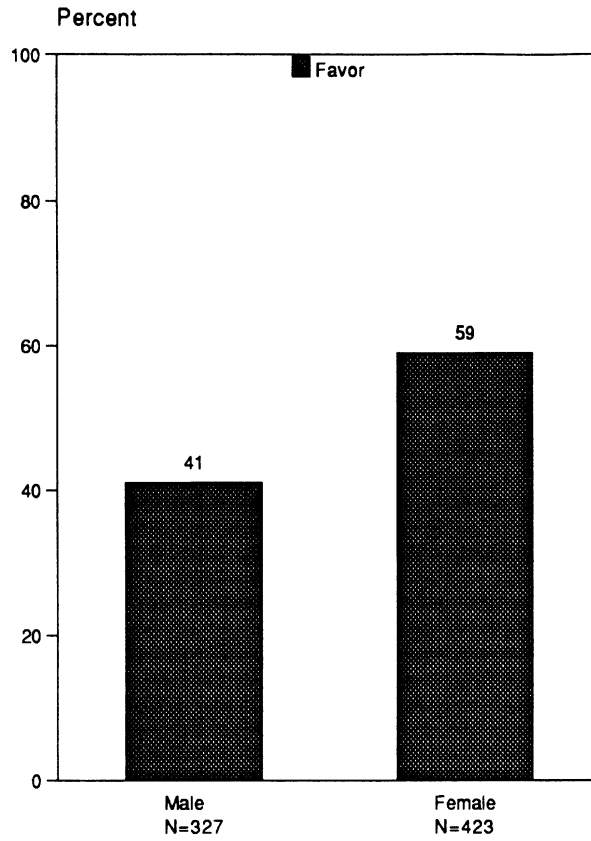


Sobriety Check Lanes

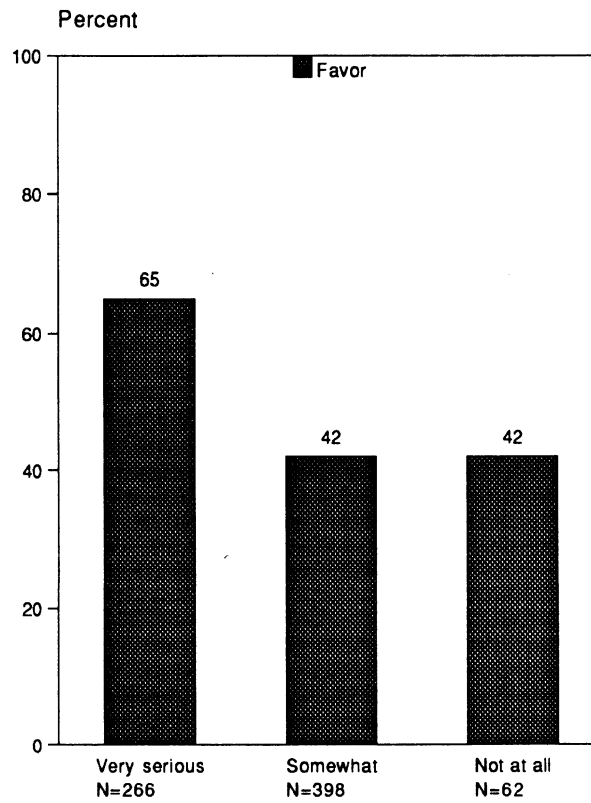
Respondents were asked: **A number of different proposals have been made to deal with the problem of people who drive after drinking. One proposal is to use sobriety check lanes where all cars traveling on a given road are stopped briefly to check for drivers whose driving ability is impaired by drinking. Do you favor or oppose the use of sobriety check lanes to prevent drunk driving?** A total of 750 respondents gave a valid response to this item.

Respondents were about evenly split in their support for the use of sobriety check lanes to prevent alcohol-impaired driving. A majority of women supported the use of sobriety check lanes, while a majority of men opposed their use. Support for sobriety check lanes was higher among respondents who reported the alcohol-impaired driving problem in their community to be very serious than among respondents who reported the problem to be somewhat or not at all serious. Opinions were not related to age, annual miles driven, or voting status. About half of respondents in each survey year reported support for sobriety check lanes. The wording of the item used in the 1992 and 1990 surveys reflects a slight change from 1987 to improve clarity. The wording of the 1987 item was: "A number of different proposals have been made to deal with the problem of people who drive after drinking. One proposal is to use sobriety check lanes where all cars traveling on a road are stopped briefly to check for drivers whose driving ability is impaired by drinking. Do you favor or oppose the use of sobriety check lanes to prevent drunk driving?" The change in wording was very minor and does not appear to have affected responses to the item.





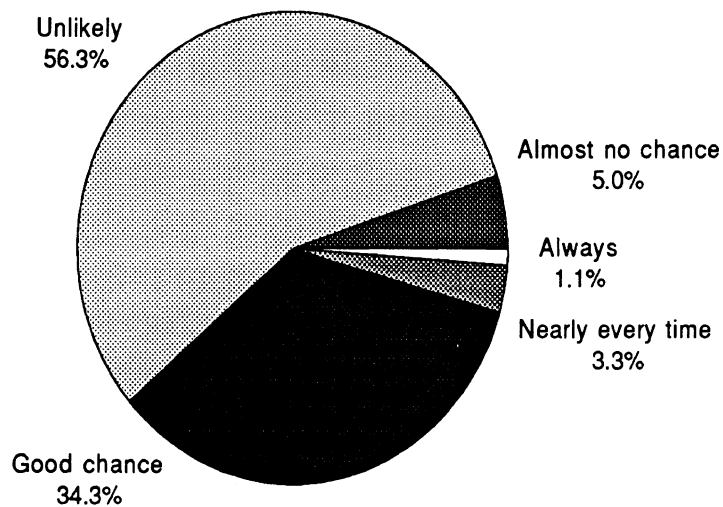
Sobriety Check Lanes, by Gender



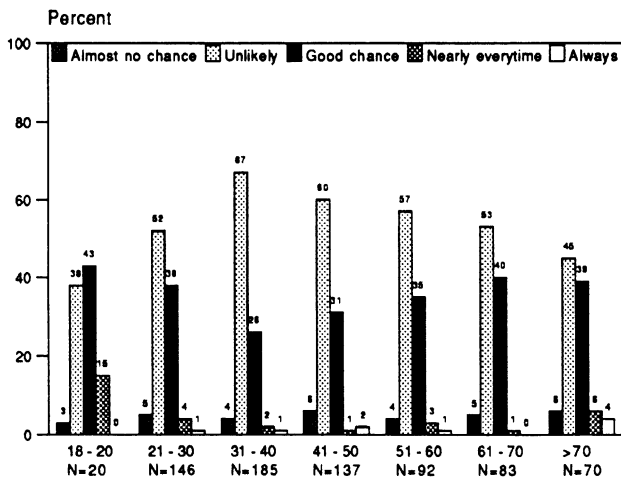
Sobriety Check Lanes, by Seriousness of Alcohol-Impaired Driving Problem

Chance of Being Pulled Over For Driving While Impaired

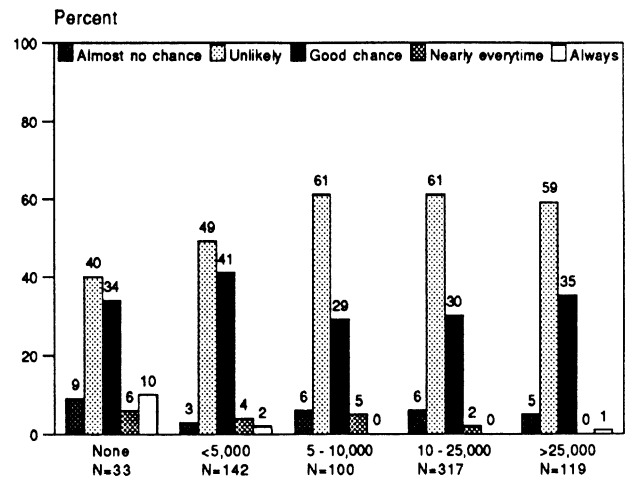
Respondents were asked: **If a person has been drinking and their blood alcohol level is over the legal limit for driving, how likely is that person to be pulled over by the police? Would you say there is almost no chance they will get pulled over; it is unlikely but it happens sometimes; there is a good chance of getting pulled over; they will be pulled over nearly every time; or they will always get pulled over?** A total of 740 respondents gave a valid response to this item. Over half of respondents reported that it is "unlikely but it happens sometimes." However, over a third of respondents indicated there is a "good chance" of getting pulled over for driving while impaired. The perceived likelihood of being pulled over for alcohol-impaired driving decreased with age until age 40 and then increased. Respondents who reported less than 5,000 annual miles driven were more likely to indicate a person will be pulled over than respondents who reported more annual miles driven. The perceived likelihood of being pulled over increased as the perceived seriousness of the alcohol-impaired driving problem decreased. Opinions were not related to gender. The perceived likelihood of being pulled over decreased slightly from 1990 and appears to be returning to 1988 levels.



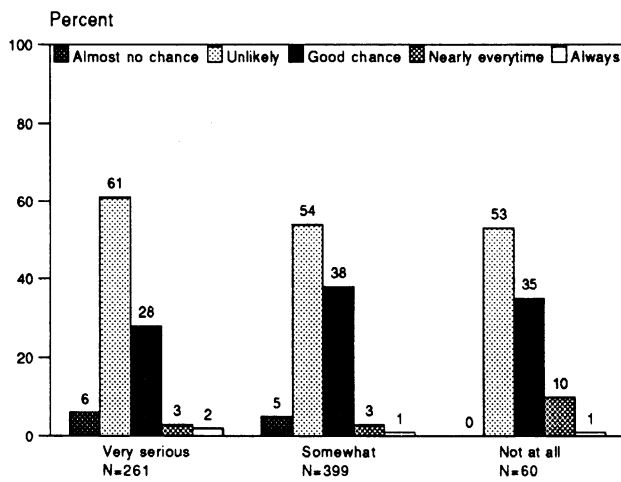
Chance of Being Pulled Over for Driving While Impaired



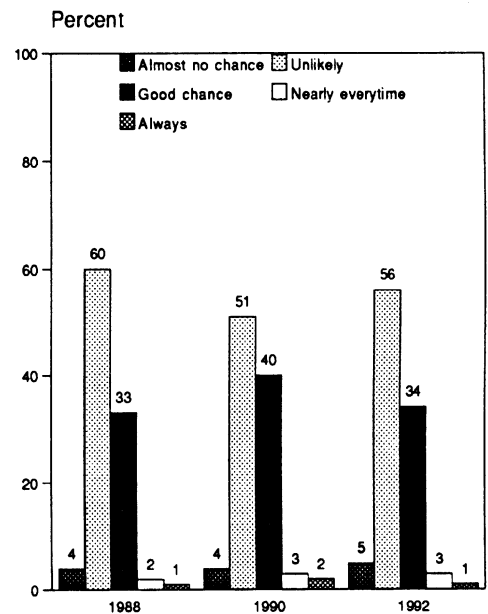
Chance of Being Pulled Over for Driving While Impaired, by Age



Chance of Being Pulled Over for Driving While Impaired, by Annual Miles Driven



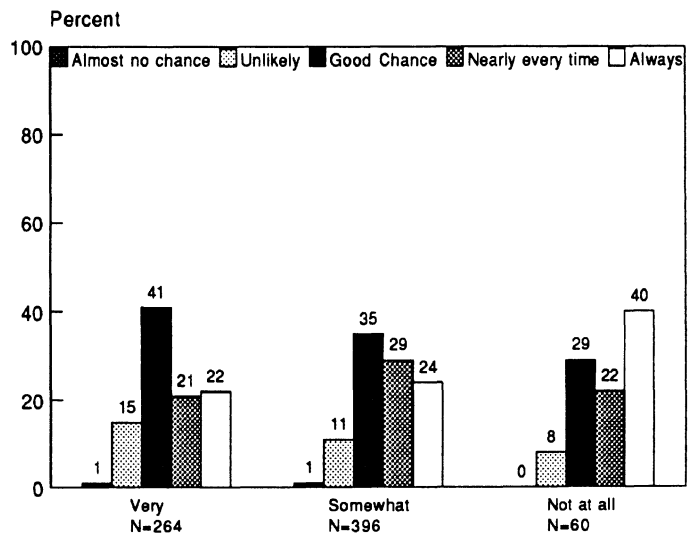
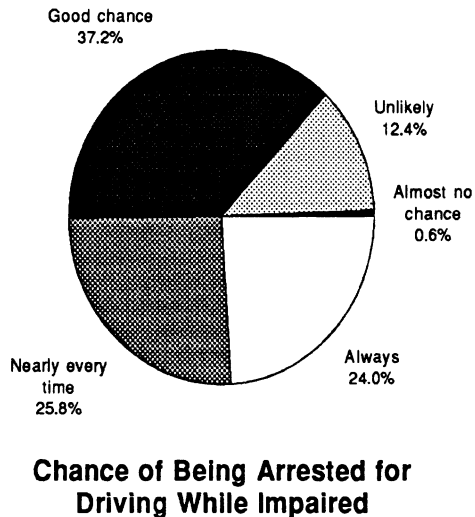
Chance of Being Pulled Over for Driving While Impaired, by Seriousness of Alcohol-Impaired Driving Problem



Chance of Being Pulled Over for Driving While Impaired, by Survey Year

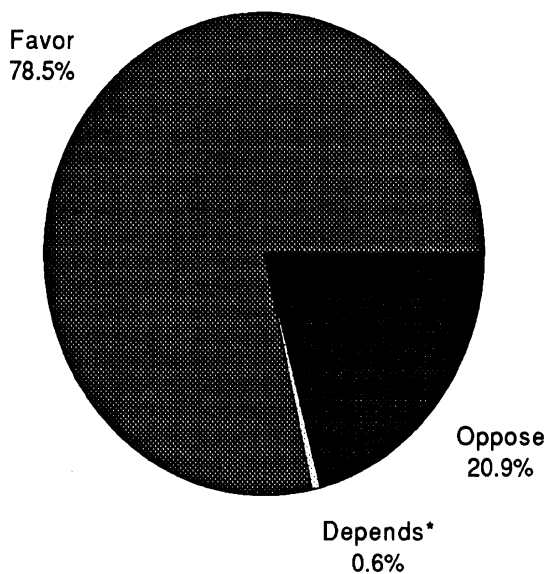
Chance of Being Arrested For Driving While Impaired

Respondents were asked: **If a person has been drinking and their blood alcohol level is over the legal limit for driving and they have been pulled over by the police, how likely is that person to be arrested? Would you say there is almost no chance they will get arrested; it is unlikely but it happens sometimes; there is a good chance of getting arrested; they will get arrested nearly every time; or they will always get arrested?** A total of 740 respondents gave a valid response to this item. Respondents perceived that the likelihood of getting arrested, once pulled over, is much greater than the chance of getting pulled over in the first place. Almost half of respondents reported that a person will "always" be arrested or will be arrested "nearly every time"; over a third indicated there is a "good chance" of getting arrested for driving while impaired. The perceived likelihood of being arrested increased as the perceived seriousness of the alcohol-impaired driving problem decreased. Opinions were not related to gender, age, or annual miles driven. There was no obvious pattern to the data across survey years.



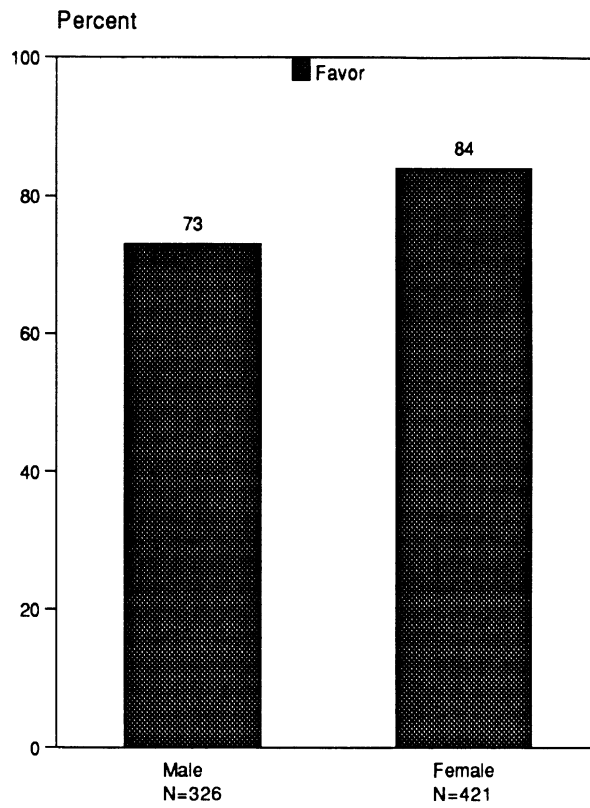
Zero BAC Limit for Drivers Under Age 21

Respondents were asked: **Currently, it is illegal for anyone to drive with a blood alcohol level at or above .10 percent. Some have suggested that drivers who are under the legal age for drinking alcoholic beverages should not have any alcohol in their system when driving. Do you favor or oppose making it illegal for drivers under the age of 21 to drive with any alcohol in their system?** A total of 747 respondents gave a valid response to this item. Over three-quarters of respondents favored making it illegal for drivers under age 21 to drive with any alcohol in their system, a slight decrease from 1990. A greater proportion of women than men favored a zero BAC level for drivers under age 21; however, support exceeded seventy percent among both groups. Although opinions were related to age, support for a zero BAC level was voiced by at least three-quarters of each age group with the exception of those 61-70. Opinions were not related to annual miles driven, voting status, or the perceived seriousness of the alcohol-impaired driving problem.

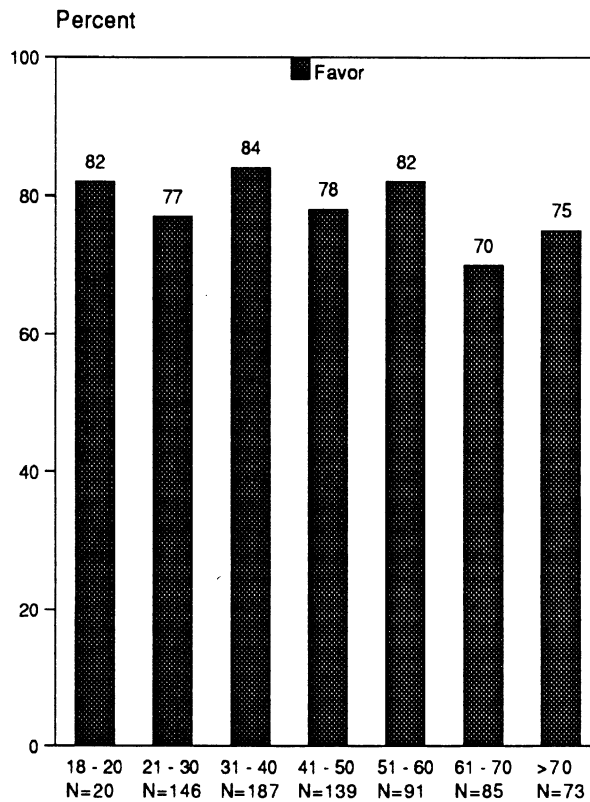


Zero BAC Limit for Drivers Under Age 21

*Volunteered response



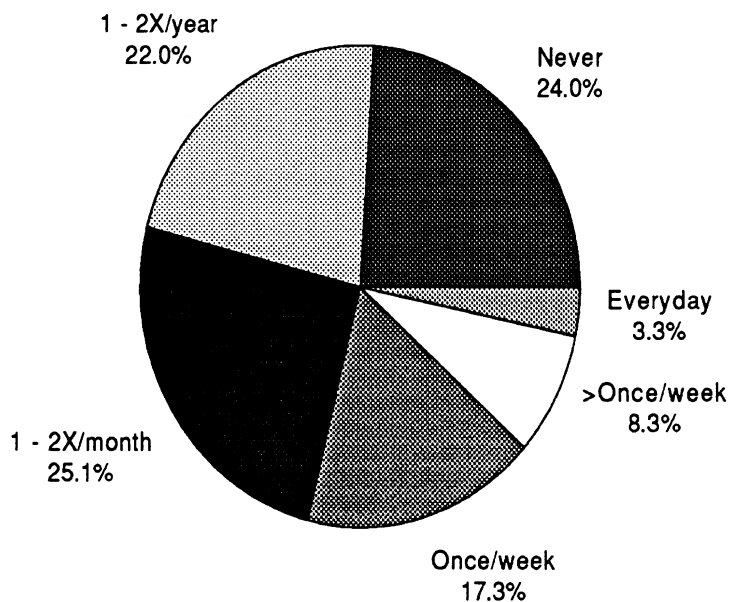
Zero BAC Limit for Drivers Under Age 21, by Gender



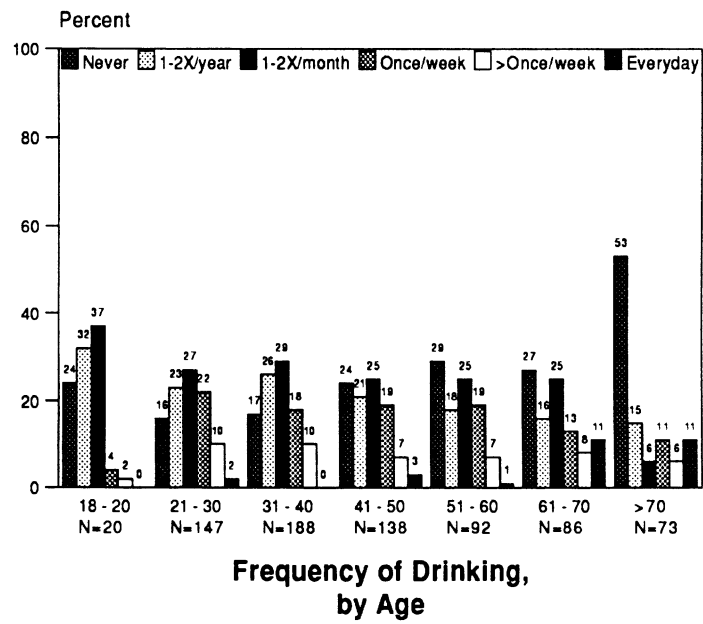
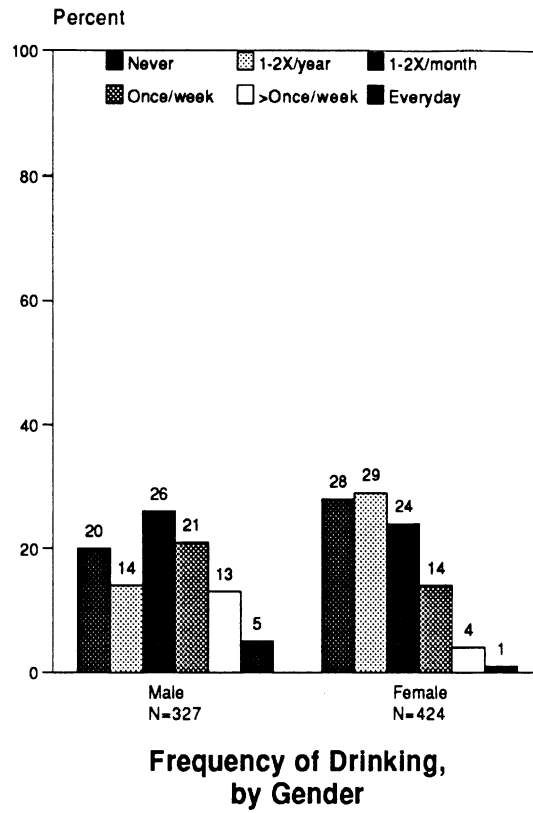
Zero BAC Limit for Drivers Under Age 21, by Age

Frequency of Drinking

Respondents were asked: **How often would you say that you drink alcoholic beverages? Would you say that you never drink, that you drink once or twice a year, once or twice a month, once a week, more than once a week, or every day?** A total of 751 respondents gave a valid response to this item. Most respondents reported drinking little or no alcohol. Almost three-quarters reported they drink alcoholic beverages no more than once or twice a month. Men reported drinking alcohol more frequently than women. Despite the legal drinking age of 21, over forty percent of respondents age 18-20 reported drinking alcohol at least once a month. Respondents over age 70 reported the lowest frequency of drinking-- over half reported they do not drink at all. There were no discernable differences in frequency of drinking across survey years.

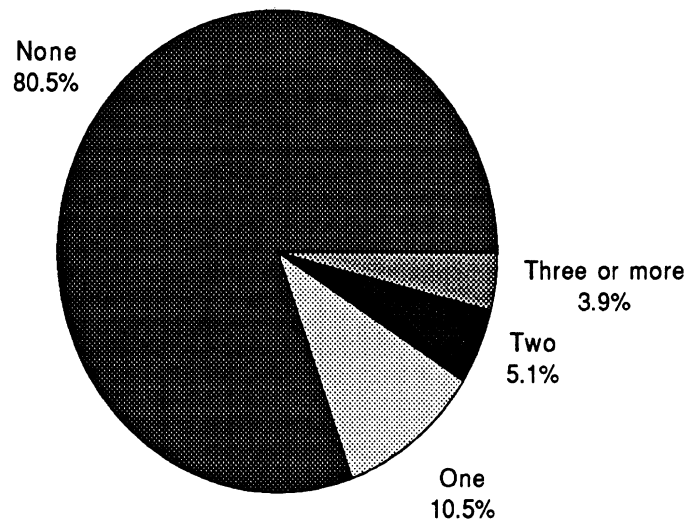


Frequency of Drinking

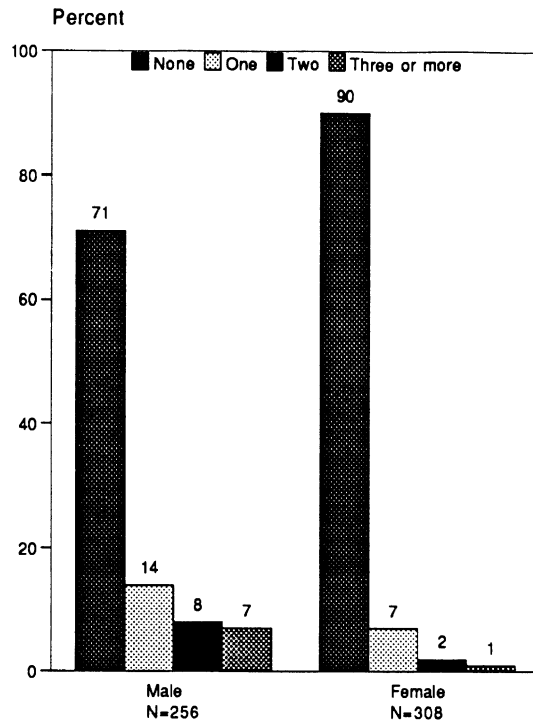


Frequency of Drinking to Intoxication

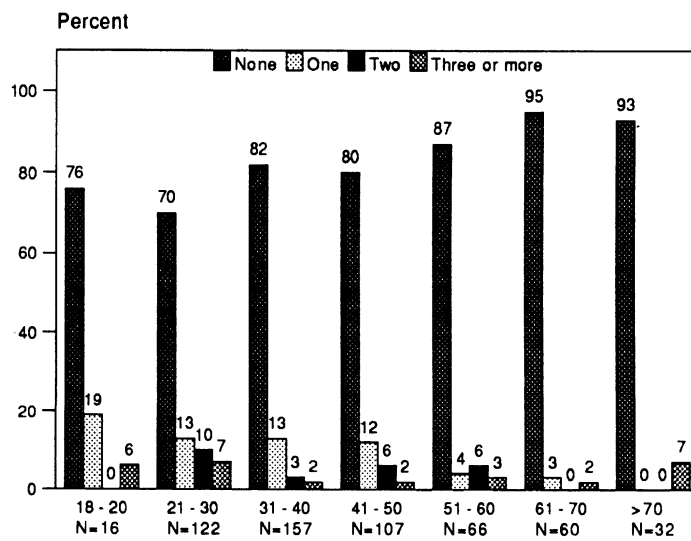
Respondents who reported drinking alcoholic beverages were asked: **Thinking about any drinking you may have done in the last two weeks, how many times did you have four or more drinks within two hours?** A total of 564 respondents gave a valid response to this item. We used reported consumption of four or more drinks within two hours as a measure of intoxication. Based on this measure, about a fifth of respondents reported drinking to intoxication on at least one occasion in the past two weeks. Men were almost three times as likely as women to report drinking to intoxication. Respondents under age 21, who are not legally permitted to drink, were more likely than any other age group, except those age 21-30, to report drinking to intoxication; a quarter of respondents age 18-20 reported drinking to intoxication on at least one occasion in the past two weeks. There was no relationship between reported drinking to intoxication and the perceived seriousness of the alcohol-impaired driving problem. There were no discernable differences in drinking to intoxication across survey years.



Frequency of Drinking to Intoxication



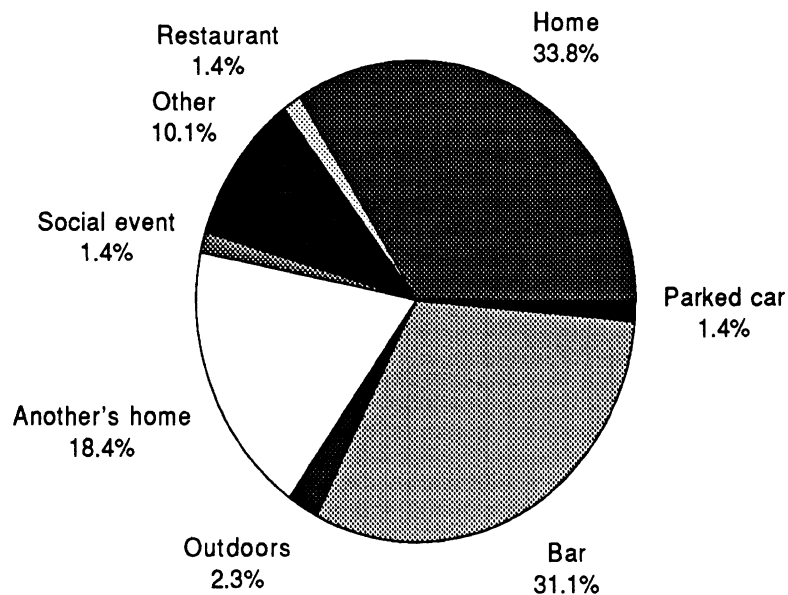
**Frequency of Drinking to Intoxication,
by Gender**



**Frequency of Drinking to Intoxication,
by Age**

Location of Drinking to Intoxication

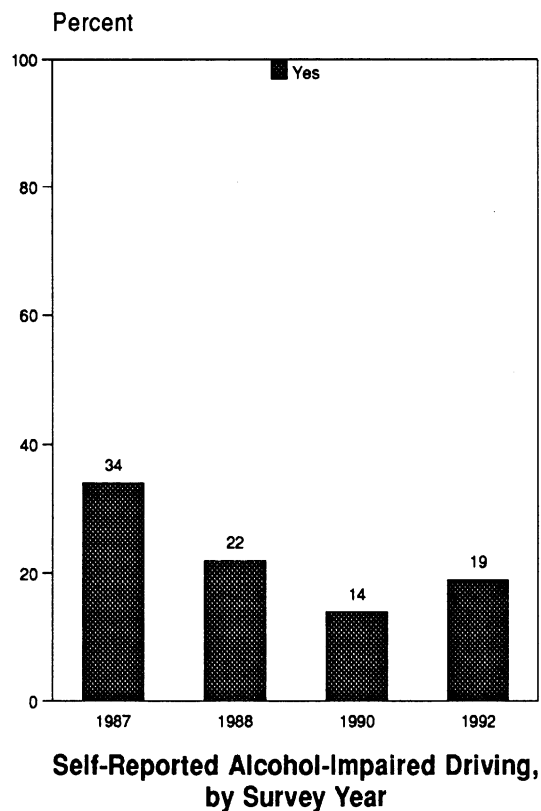
Respondents who reported drinking four or more drinks within two hours were asked: **The last time you had four or more drinks in two hours, where were you drinking?** A total of 106 respondents gave a valid response to this item. Just over a third of respondents reported drinking to intoxication at home. Almost another third of respondents reported drinking to intoxication in a bar. Self-reported drinking to intoxication at home decreased from 1990 and self-reported drinking to intoxication in another's home or in a bar increased.



Location of Drinking to Intoxication

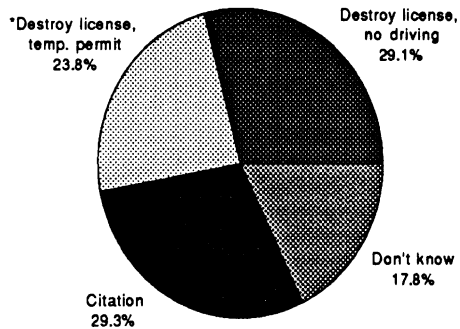
Self-Reported Alcohol-Impaired Driving

Respondents who reported drinking to intoxication on at least one occasion in the past two weeks were asked: **On that occasion, did you do any driving after drinking?** A total of 106 respondents gave a valid response to this item. While most respondents reported they did not drive after drinking to intoxication, nearly a fifth reported driving after drinking to intoxication. Responses to this item were not related to gender, age, or the perceived seriousness of the alcohol-impaired driving problem. Self-reported alcohol-impaired driving declined from 1987 to a low of fourteen percent in 1990 and then increased somewhat in 1992.

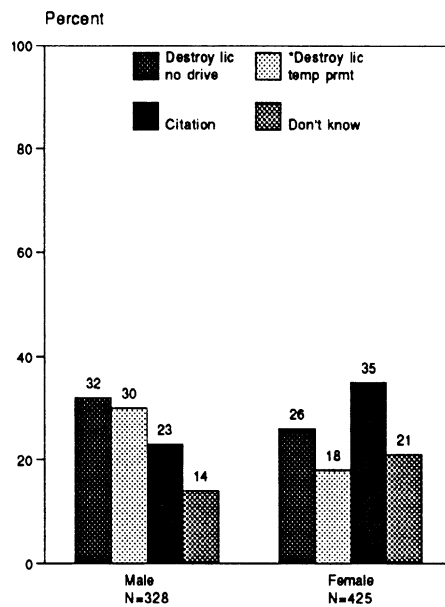


Police Action for Failure to Pass Alcohol Test

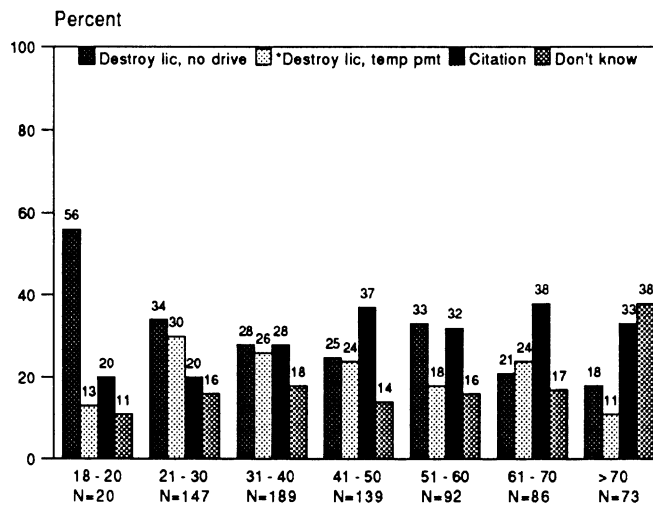
Respondents were asked a series of questions about a new set of alcohol-impaired driving laws implemented in Michigan in 1992. The purpose of the questions was to find out what the public has learned about these new laws. These questions differ from other items in the survey because they measure knowledge rather than attitudes or opinions. Consequently, there is a correct response for each item. The correct response is identified in the charts accompanying each item. Respondents were first asked: **After a driver is stopped for suspected drunk driving and has failed an alcohol test, which of the following driver license actions will the police take: the driver's license will be immediately destroyed and driving privileges will be suspended until the driver can prove he or she is not guilty; the driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court; the driver will receive a citation requiring a court appearance, but nothing will happen to the driver's license until the case is resolved by the court?** A total of 753 respondents gave a valid response to this item. Responses of "don't know" were considered valid responses for this item because they provide information about a respondent's level of knowledge regarding the item. Less than a quarter of respondents knew that after a driver is stopped for suspected alcohol-impaired driving and has failed an alcohol test, "the driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court." Over half of respondents chose an incorrect response and almost a fifth reported they do not know what driver license action will be taken by police. Men were more likely than women to choose the correct response and less likely to report they do not know. Respondents age 18-20 and over age 70 were least likely to choose the correct response and those over age 70 were two to three times more likely than other respondents to report they do not know. Responses were not related to reported education (i.e., less than 13 years, 13-16 years, or more than 16 years).



Police Action for Failure to Pass Alcohol Test
*Correct response



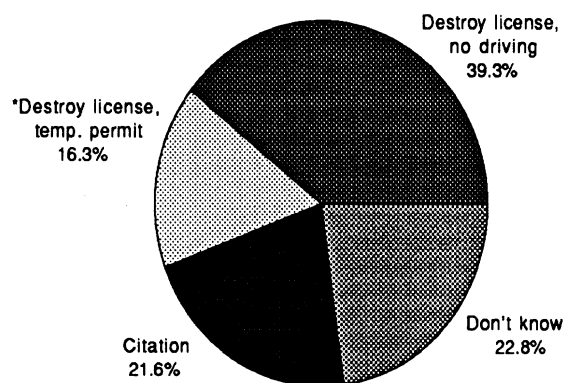
Police Action for Failure to Pass Alcohol Test, by Gender
*Correct response



Police Action for Failure to Pass Alcohol Test, by Age
*Correct response

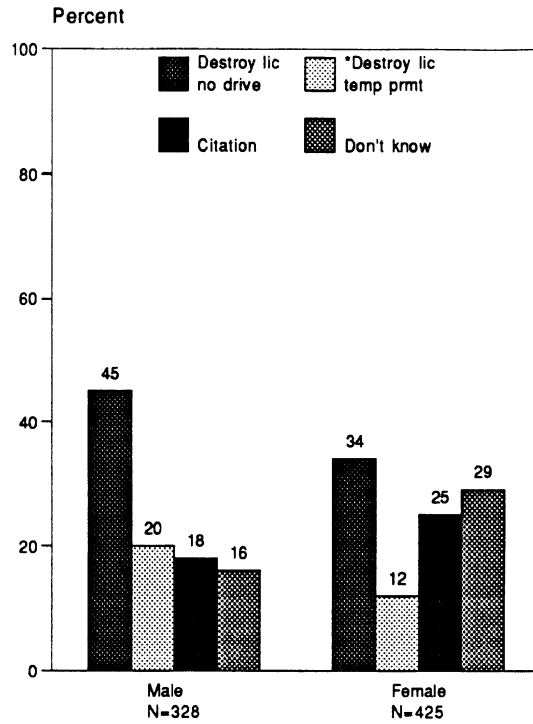
Police Action for Refusal to Take a Breath Alcohol Test

As part of a series of items about a new set of alcohol-impaired driving laws implemented in Michigan, respondents were asked: **After a driver is stopped for suspected drunk driving and the driver refuses to take a breath alcohol test, which of the following license actions will be taken on the spot: the driver's license will be immediately destroyed and driving privileges will be suspended until the driver can prove he or she is not guilty; the driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court; the driver will receive a citation requiring a court appearance, but nothing will happen to the driver's license until the case is resolved by the court?** A total of 753 respondents gave a valid response to this item. Responses of "don't know" were considered valid responses for this item because they provide information about a respondent's level of knowledge regarding the item. The correct response for this item is identified in the accompanying charts. Less than a fifth of respondents knew that after a driver is stopped for suspected alcohol-impaired driving and the driver refuses to take a breath alcohol test, "the driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court." Over half of respondents chose an incorrect response and almost a quarter reported they do not know what driver license action will be taken. Men were more likely than women to choose the correct response and less likely to report they do not know. Respondents age 18-20 were least likely to choose the correct response and those over age 70 were most likely to report they do not know. Responses were not related to education.



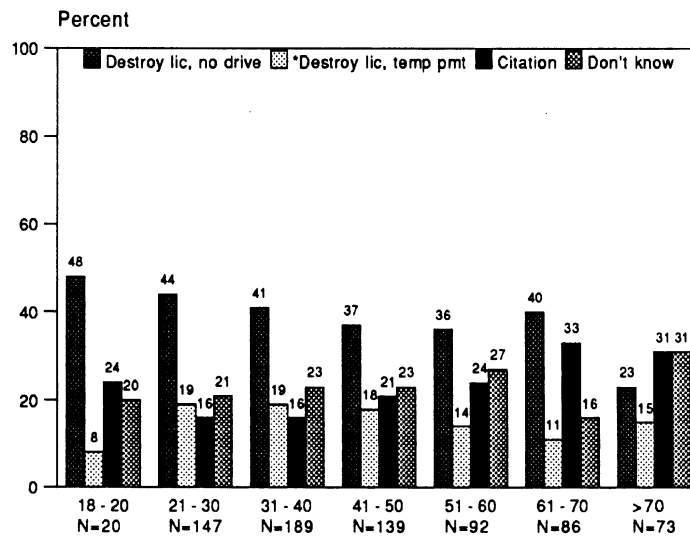
Police Action for Refusal to Take Breath Alcohol Test

*Correct response



Police Action for Refusal to Take Breath Alcohol Test, by Gender

*Correct response

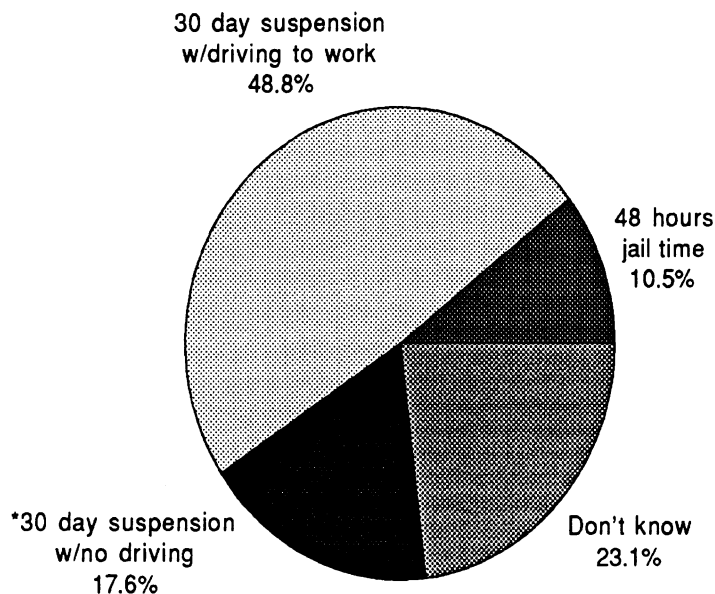


Police Action for Refusal to Take Breath Alcohol Test, by Age

*Correct response

Mandatory Court Sentence for First Alcohol-Impaired Driving Conviction

As part of a series of items about a new set of alcohol-impaired driving laws implemented in Michigan, respondents were asked: **When a person is convicted of drunk driving, and it is the driver's first conviction for such an offense, which of the following court sentences is mandatory under the new Michigan law: 48 hours of jail time; a 30-day license suspension that allows driving to and from work; a 30-day license suspension that does not allow driving for any purpose?** A total of 753 respondents gave a valid response to this item. Responses of "don't know" were considered valid responses for this item because they provide information about a respondent's level of knowledge regarding the item. The correct response for this item is identified in the accompanying charts. Less than a fifth of respondents knew that the mandatory court sentence for a driver's first conviction for alcohol-impaired driving is "a 30-day license suspension that does not allow driving for any purpose." Over half of respondents chose an incorrect response and almost a quarter reported they do not know the mandatory court sentence. Responses were not related to gender, age, or education.

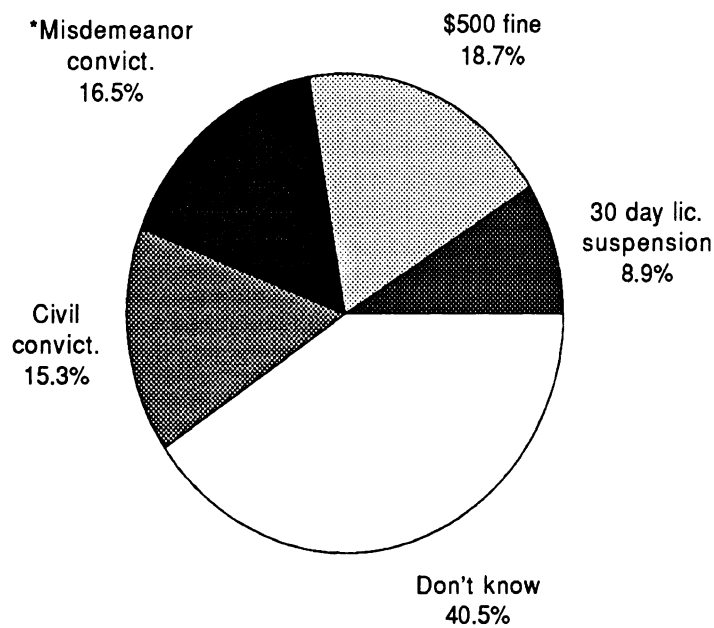


Mandatory Court Sentence for First Alcohol-Impaired Driving Conviction

*Correct response

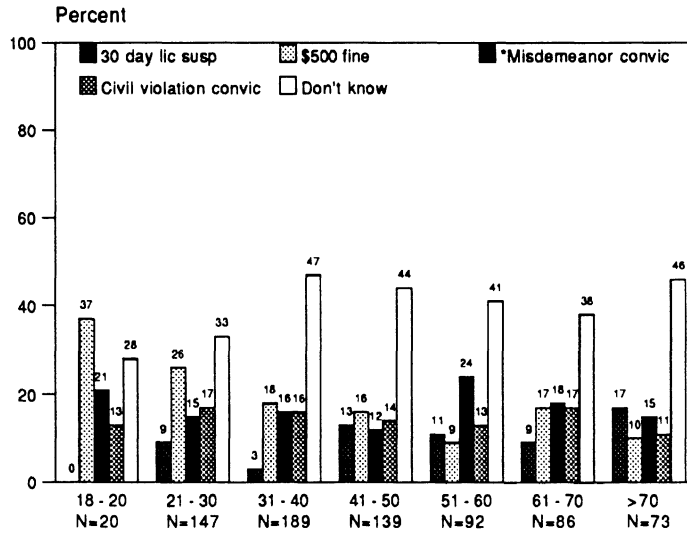
Mandatory Court Sentence for Open Beer Conviction

As part of a series of items about a new set of alcohol-impaired driving laws implemented in Michigan, respondents were asked: **If a driver is convicted of carrying an open beer in the car while driving, that driver will receive which of the following court sentences under the new Michigan law: a 30-day mandatory license suspension; a mandatory \$500 fine and 4 points on their record; a misdemeanor conviction and 2 points on their record; a conviction of a civil violation and 2 points on their record.** A total of 753 respondents gave a valid response to this item. Responses of "don't know" were considered valid responses for this item because they provide information about a respondent's level of knowledge regarding the item. The correct response for this item is identified in the accompanying charts. Less than a fifth of respondents knew that the mandatory court sentence for a driver convicted of carrying an open beer in the car while driving is "a misdemeanor conviction and two points on the driver's record." Over forty percent of respondents reported they do not know what court sentence a driver will receive and the remaining respondents chose an incorrect response. Only among respondents age 18-20 and 51-60 did more than a fifth choose the correct response. In each age group, except the 18-20 age group, more respondents gave a response of "don't know" than any other single response. Responses were not related to gender. The likelihood of choosing the correct response decreased with education and the likelihood of giving a "don't know" response increased with education.

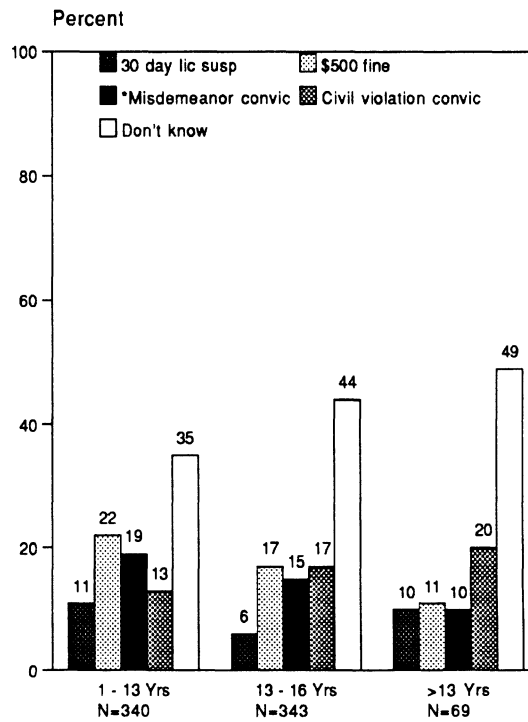


Mandatory Court Sentence for Open Beer Conviction

*Correct response



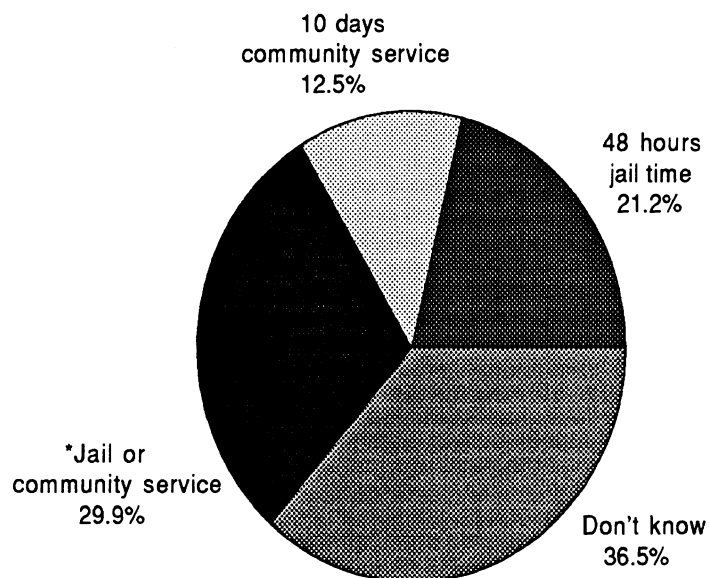
Mandatory Court Sentence for Open Beer Conviction, by Age
*Correct response



Mandatory Court Sentence for Open Beer Conviction, by Education
*Correct response

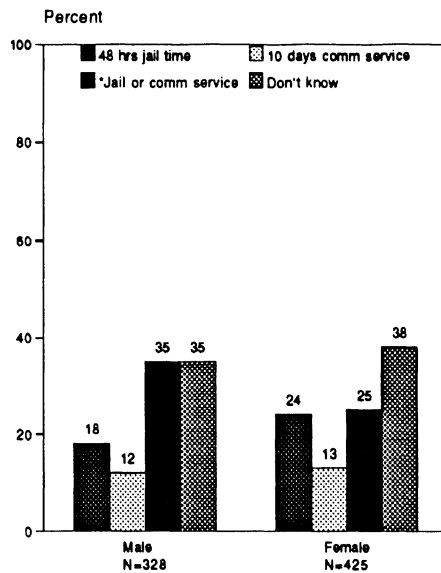
Mandatory Court Sentence for Second Conviction for Alcohol-Impaired Driving

As part of a series of items about a new set of alcohol-impaired driving laws implemented in Michigan, respondents were asked: **If a person is convicted of drunk driving for a second time, which of the following court sentences is mandatory under the new Michigan law: 48 hours of consecutive jail time; 10 days of community service; 48 hours of consecutive jail time or 10 days of community service?** A total of 753 respondents gave a valid response to this item. Responses of "don't know" were considered valid responses for this item because they provide information about a respondent's level of knowledge regarding the item. The correct response for this item is identified in the accompanying charts. Less than a third of respondents knew that the mandatory court sentence for a second conviction for alcohol-impaired driving is "48 hours of consecutive jail time or ten days of community service." The remaining respondents were about evenly split between choosing an incorrect response and reporting they do not know. Men were more likely than women to choose the correct response. The proportions of men and women reporting they do not know were similar. The likelihood of choosing the correct response increased until age 40 and then declined. There were only small differences in the likelihood of giving of the correct response by education; however, the likelihood of choosing a "don't know" response increased with education.

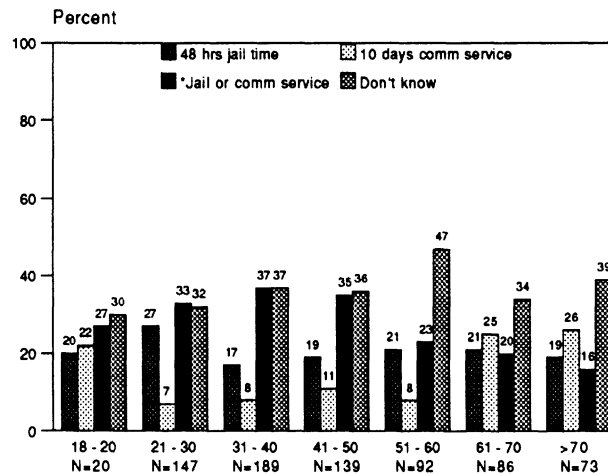


Mandatory Court Sentence for Second Alcohol-Impaired Driving Conviction

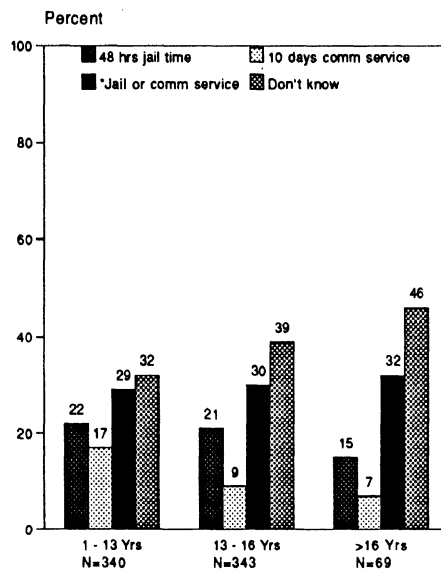
*Correct response



Mandatory Court Sentence for Second Alcohol-Impaired Driving Conviction, by Gender
*Correct response



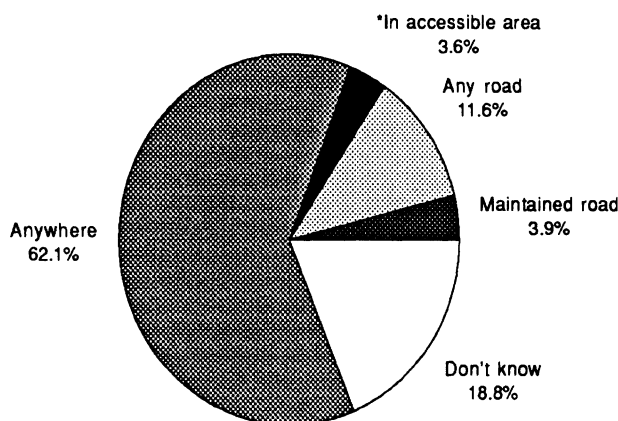
Mandatory Court Sentence for Second Alcohol-Impaired Driving Conviction, by Age
*Correct response



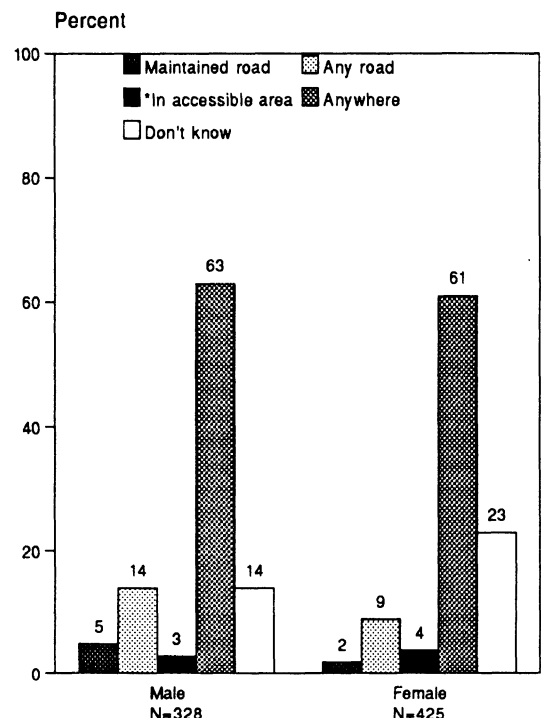
Mandatory Court Sentence for Second Alcohol-Impaired Driving Conviction, by Education
*Correct response

Driving Location for Alcohol-Impaired Driving Violation

As part of a series of items about a new set of alcohol-impaired driving laws implemented in Michigan, respondents were asked: **According to the new drunk driving laws in Michigan, a driver with a blood alcohol content above .10 percent is in violation of the law if that driver was: driving on a road maintained by the Michigan Department of Transportation or a local or county road commission; driving on any road; driving in an area generally accessible to motor vehicles; driving a motor vehicle anywhere, regardless of the area.** A total of 753 respondents gave a valid response to this item. Responses of "don't know" were considered valid responses for this item because they provide information about a respondent's level of knowledge regarding the item. The correct response for this item is identified in the accompanying charts. Less than four percent of respondents knew that a driver with a blood alcohol content above .10 percent is in violation of the law if that driver was "driving in an area generally accessible to motor vehicles." Over three-quarters of respondents chose an incorrect response (with most choosing the response "driving on any road") and almost a fifth reported they do not know. Women were more likely than men to report they do not know. However, similar proportions of men and women chose the correct response. Responses were not related to age or education.



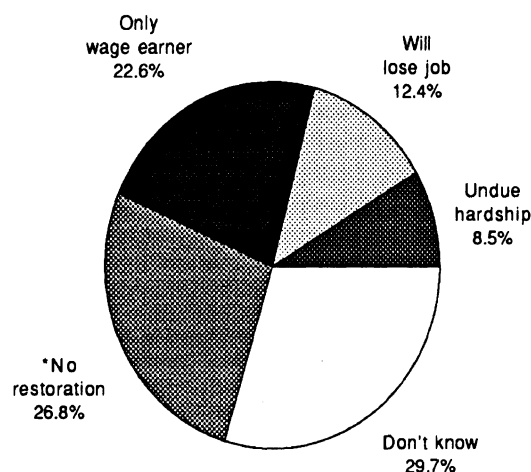
Driving Location For Alcohol-Impaired Driving Violation
*Correct response



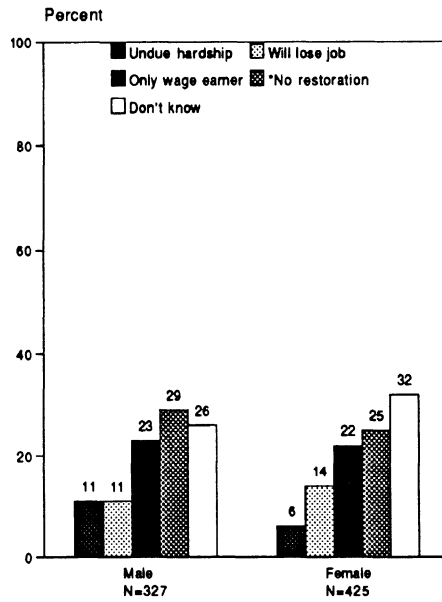
Driving Location for Alcohol-Impaired Driving Violation, by Gender
*Correct response

Conditions for Restoration of Revoked Driver License

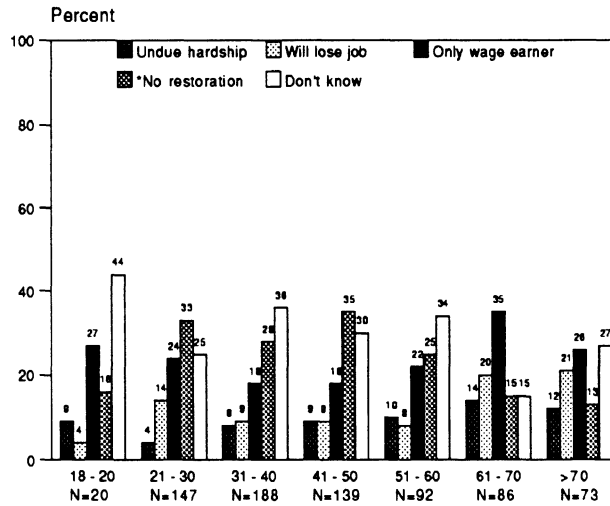
As part of a series of items about a new set of alcohol-impaired driving laws implemented in Michigan, respondents were asked: **Under the new law, if a person is convicted of drunk driving and his or her license is revoked, they can have their driving privilege restored during the period of revocation only if: they can prove the revocation causes undue hardship; they can prove they will lose their job if they cannot drive; they can prove they are the only wage earner in the family and they will lose their job if they cannot drive; the new law does not allow restoration of the driving privilege during the period of revocation.** A total of 752 respondents gave a valid response to this item. Responses of "don't know" were considered valid responses for this item because they provide information about a respondent's level of knowledge regarding the item. The correct response for this item is identified in the accompanying charts. Just over a quarter of respondents knew that "the new law does not allow restoration of the driving privilege during the period of revocation" if a person is convicted of alcohol-impaired driving and his or her license is revoked. Close to half of respondents chose an incorrect response and over a quarter reported they do not know. Men were more likely than women to choose the correct response and less likely to report they do not know, but differences were small. Respondents under age 21 and over age 60 were the least likely age groups to choose the correct response. The likelihood of giving a "don't know" response did not exhibit a consistent pattern by age but increased with education. The likelihood of choosing the correct response was higher among respondents reporting 13-16 years of education than among respondents reporting either less or more education.



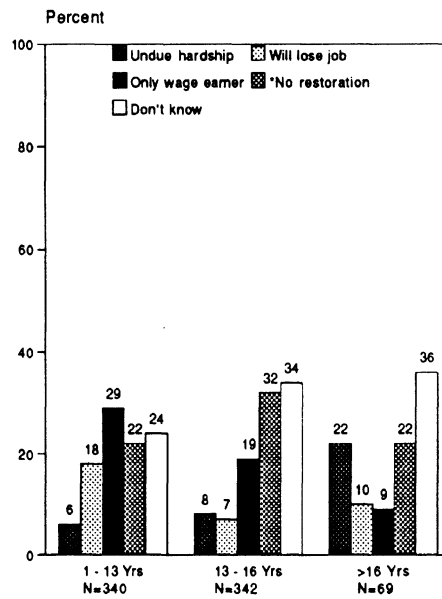
Conditions for Restoration of License
*Correct response



Conditions for Restoration of License, by Gender
*Correct response



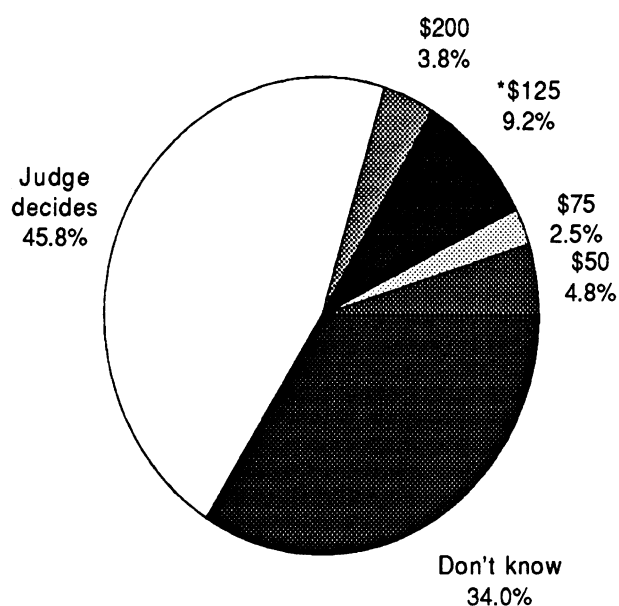
Conditions for Restoration of License, by Age
*Correct response



Conditions for Restoration of License, by Education
*Correct response

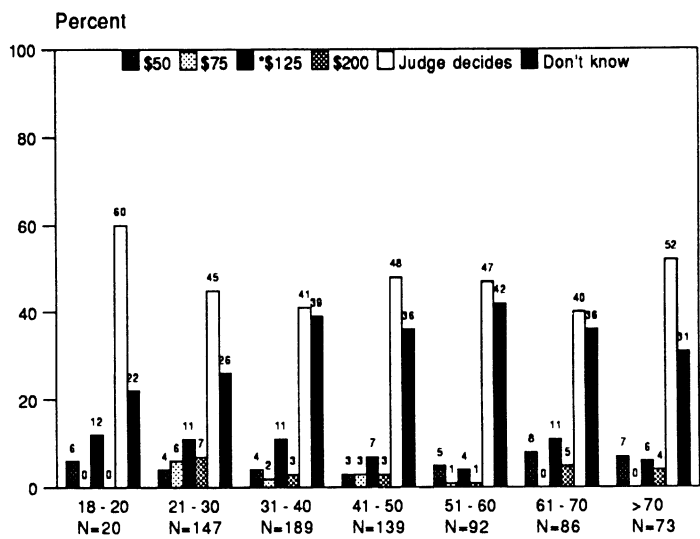
Fee for Returning Revoked or Suspended Driver License

As part of a series of items about a new set of alcohol-impaired driving laws implemented in Michigan, respondents were asked: **Under the new law, the Secretary of State's fee for returning a license to a person who has had his or her license revoked or suspended is: \$50; \$75; \$125; \$200; established by the judge as a condition of the conviction.** A total of 753 respondents gave a valid response to this item. Responses of "don't know" were considered valid responses for this item because they provide information about a respondent's level of knowledge regarding the item. The correct response for this item is identified in the accompanying charts. Less than ten percent of respondents knew that the fee for returning a revoked or suspended license is "\$125." Over half of respondents chose an incorrect response (with a plurality reporting that the fee is "established by the judge as a condition of the conviction"), and over a third reported they do not know the amount of the fee. Responses were related to age, but there was not a clear pattern to the results. The likelihood of giving a "don't know" response increased with education, but proportions of respondents choosing the correct response were similar across education groups. Responses were not related to gender.

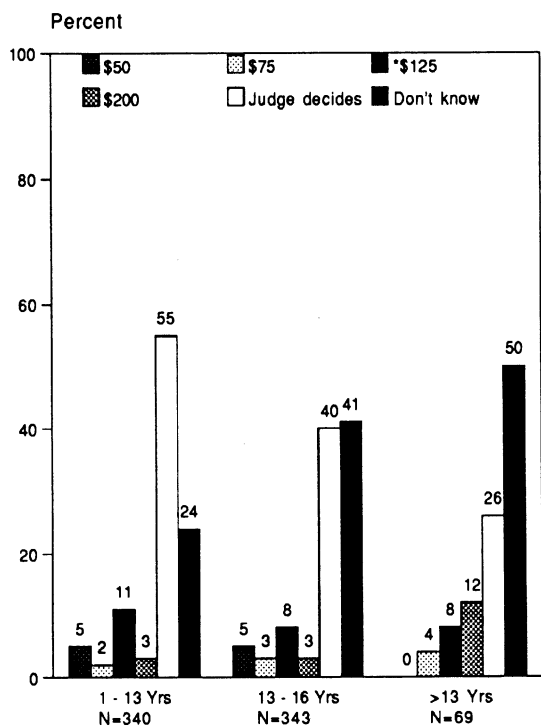


Fee for Returning Revoked or Suspended Driver License

*Correct response



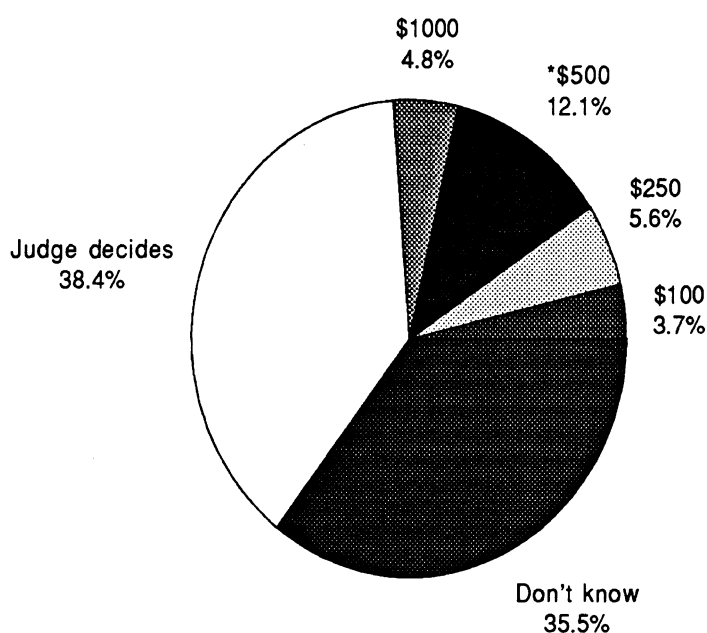
Fee for Returning Revoked or Suspended Driver License, by Age
 *Correct response



Fee for Returning Revoked or Suspended Driver License, by Education
 *Correct response

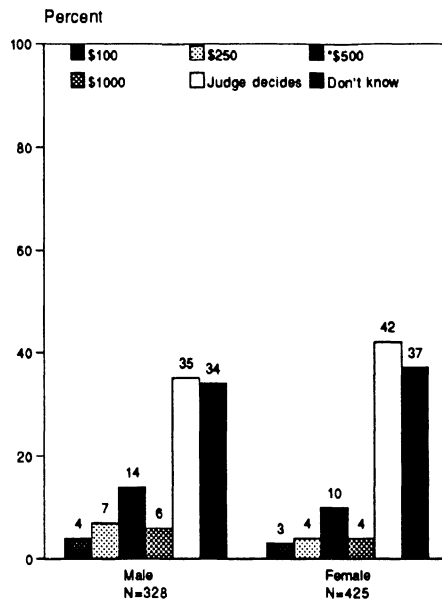
Penalty for First Conviction for Driving on Suspended, Revoked, or Denied License

As part of a series of items about a new set of alcohol-impaired driving laws implemented in Michigan, respondents were asked: **Under the new law, the penalty for a person's first conviction for driving on a suspended, revoked, or denied license has been increased to a maximum of: \$100; \$250; \$500; \$1,000; any amount the judge deems to be reasonable.** A total of 753 respondents gave a valid response to this item. Responses of "don't know" were considered valid responses for this item because they provide information about a respondent's level of knowledge regarding the item. The correct response for this item is identified in the accompanying charts. About twelve percent of respondents knew that the maximum penalty for a person's first conviction for driving on a suspended, revoked, or denied license is "\$500." Over half of respondents chose an incorrect response (with most reporting that the maximum penalty is "any amount the judge deems to be reasonable"), and over a third reported they do not know. Men were more likely than women to choose the correct response but differences were small. The youngest and oldest age groups were least likely to choose the correct response. Responses of "don't know" did not exhibit a clear pattern by age. Respondents reporting more than 16 years of education were more likely to choose the correct response than respondents reporting less education and the likelihood of giving a "don't know" response increased with education.

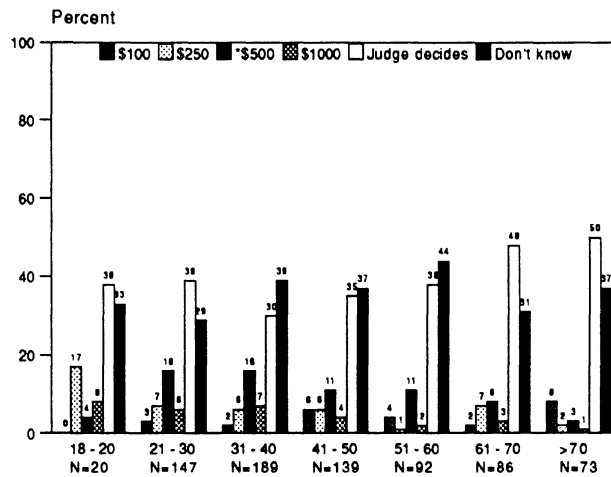


Penalty for First Conviction for Driving While License Suspended

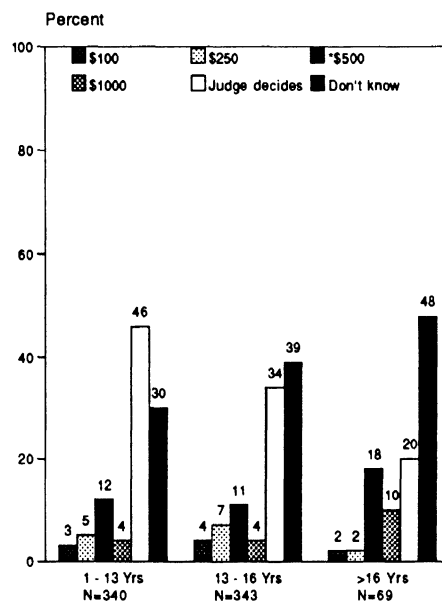
*Correct response



Penalty for First Conviction for Driving While License Suspended, by Gender
*Correct response



Penalty for First Conviction for Driving While License Suspended, by Age
*Correct response



Penalty for First Conviction for Driving While License Suspended, by Education
*Correct response

Knowledge of New Alcohol-Impaired Driving Laws

Taken together, responses to the nine survey items about the new alcohol-impaired driving laws in Michigan indicate that respondents had little knowledge of the laws. Less than a third chose the correct response for any single item and, for most items, less than a fifth chose the correct response. Responses to items were distributed across all possible response categories and in only one case was a single response category chosen by a majority of respondents (and that response was incorrect). While many respondents appeared to guess at the correct answer (i.e., they chose incorrect responses to the items), relatively large proportions of respondents reported they did not know the correct response. For five of the nine items, thirty percent or more of respondents gave a response of "don't know" and for seven of the nine items, over twenty percent gave such a response.

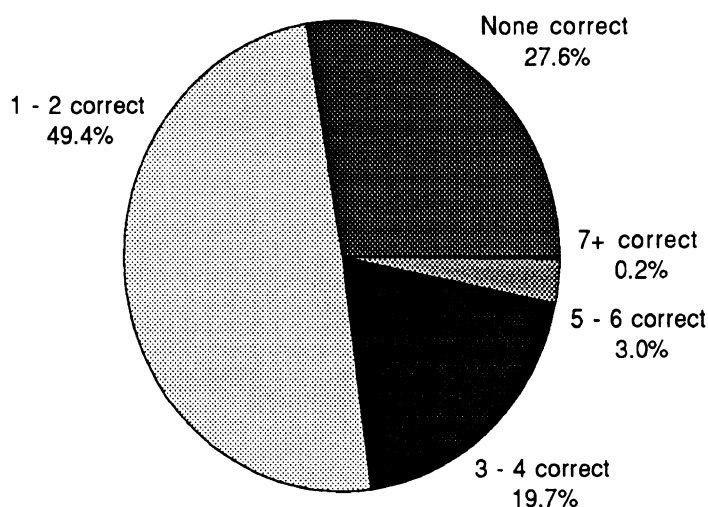
When incorrect responses were chosen, there was not a consistent pattern to choices. For example, for some items, the majority of incorrect respondents chose responses that were more restrictive than the correct response (e.g., they chose "the driver's license will be immediately destroyed and driving privileges will be suspended until the driver can prove he or she is not guilty" rather than the correct response "the driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court"). For other items, the majority of incorrect respondents chose responses that were less restrictive than the correct response (e.g., they chose a "30-day suspension that allows driving to and from work" rather than the correct response "a 30-day license suspension that does not allow driving for any purpose").

For two items dealing with monetary fees and penalties, respondents tended to attribute more discretion to judges than judges actually have in those situations. The items asked respondents to identify the Secretary of State's fee for returning a revoked or suspended driver license and the maximum penalty for a person's first conviction for driving on a suspended, revoked, or denied license, respectively. In both cases, a plurality of respondents indicated that the amount is set by the judge. In actuality, the amounts of the fee and penalty are established by statute and are not subject to discretion by judges.

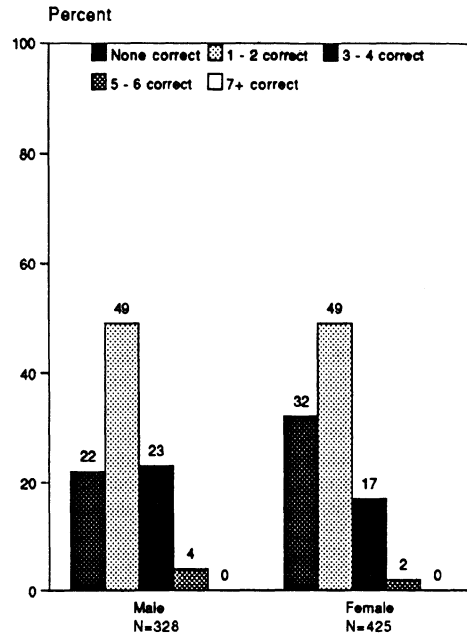
Gender was related to item responses for six of the nine items. In those cases, men were generally more likely than women to choose the correct response, and less likely than women to report they did not know. Age was related to item responses for seven of the nine items. Although in many cases, respondents age 18-20 or over age 70 exhibited lower levels of knowledge than other age groups, there was not a consistent pattern across all items.

Education was related to responses for five of the nine items. However, its effect was generally on the likelihood of giving a "don't know" response rather than on the likelihood of choosing a correct response. That is, respondents were more likely to report they did not know as their level of education increased. However, levels of correct responses differed little by education and failed to exhibit a consistent pattern when there were statistically significant relationships.

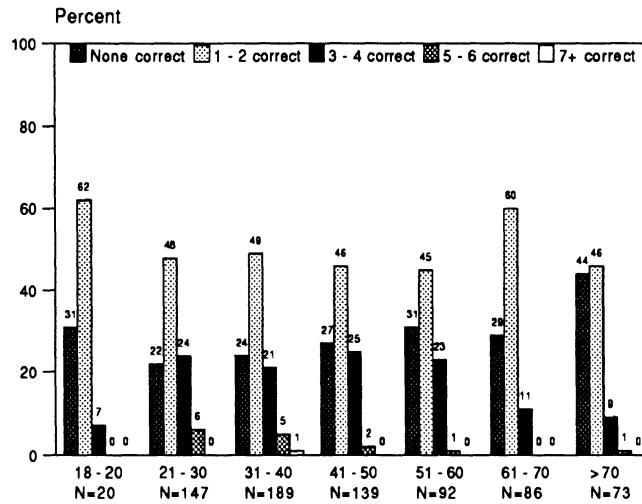
To better examine overall knowledge of the new alcohol-impaired driving laws, correct responses across all items were collapsed into one variable. The new variable identifies total correct responses to the nine items for each respondent. Over three-quarters of respondents had no more than two total correct responses. Less than one percent of respondents had seven total correct responses and no respondents had more than seven total correct responses. The number of total correct responses was higher among men than women and higher among respondents age 21-60 than among younger or older respondents. The number of total correct responses was related to the perceived seriousness of the alcohol-impaired driving problem and to frequency of drinking, but, in each case, there was not a clear pattern to the results. The number of total correct responses generally increased as the frequency of drinking to intoxication increased and was higher among respondents who reported driving after drinking to intoxication than among those who did not, although sample sizes were small. There was no relationship between education and the number of total correct responses.



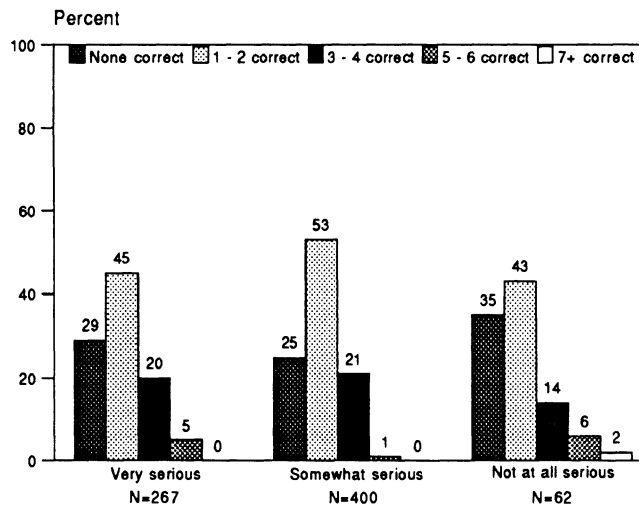
Knowledge of New Alcohol-Impaired Driving Laws



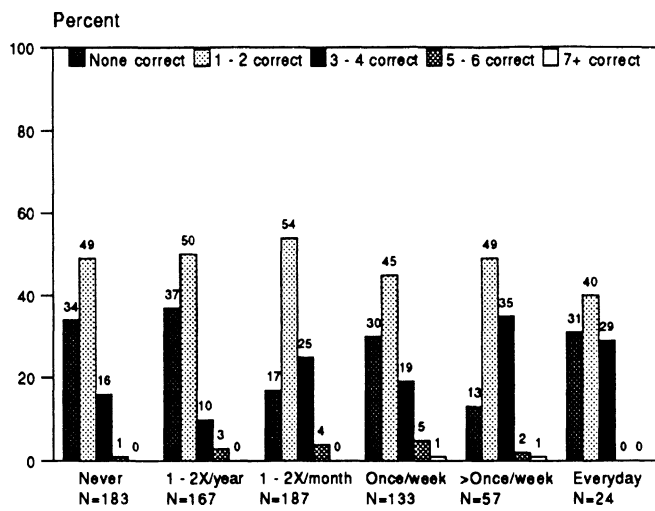
Knowledge of New Alcohol-Impaired Driving Laws, by Gender



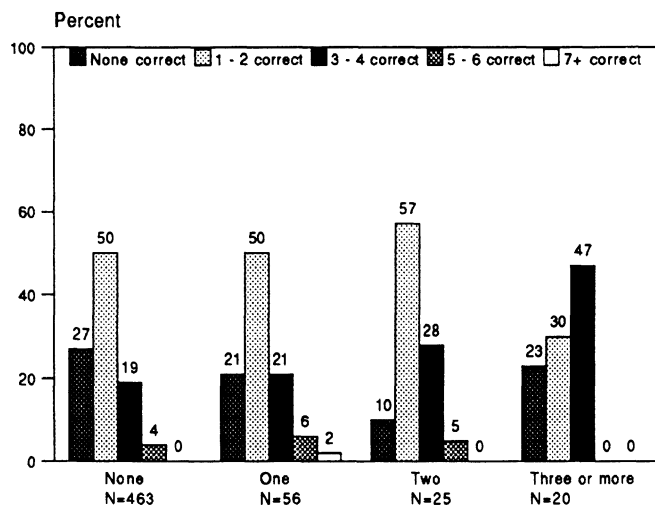
Knowledge of New Alcohol-Impaired Driving Laws, by Age



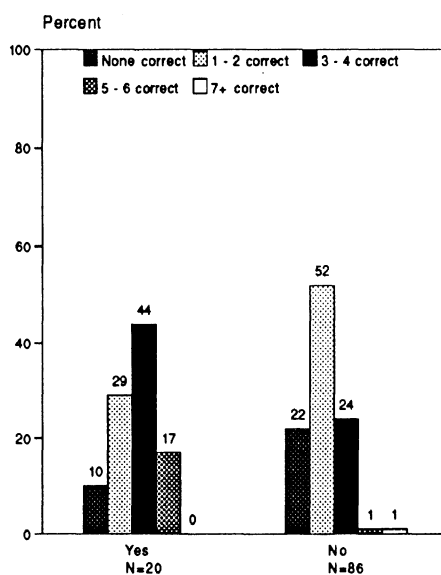
Knowledge of New Alcohol-Impaired Driving Laws, by Seriousness of Alcohol-Impaired Driving Problem



Knowledge of New Alcohol-Impaired Driving Laws, by Frequency of Drinking



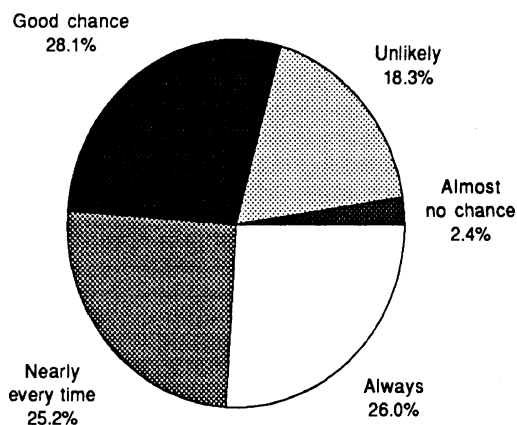
Knowledge of New Alcohol-Impaired Driving Laws, by Frequency of Drinking to Intoxication



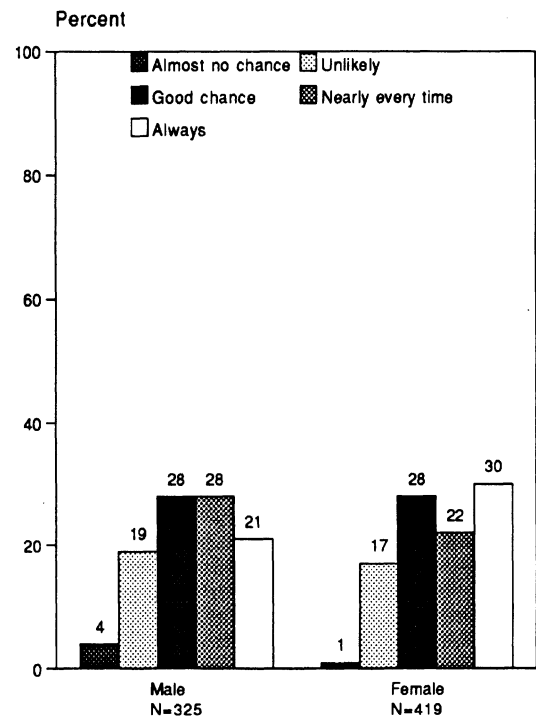
Knowledge of New Alcohol-Impaired Driving Laws, by Self-Reported Alcohol-Impaired Driving

Chance of Being Ticketed for Safety Belt Nonuse

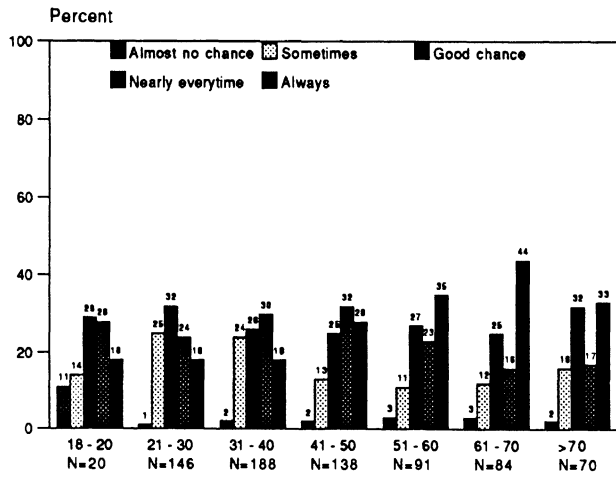
Respondents were asked: **If a person is not using a safety belt and is stopped for speeding, how likely is it they will get a ticket for not having a safety belt on? Would you say there is almost no chance they would get a ticket; it is unlikely, but it happens sometimes; there is a good chance of getting a ticket; they will get a ticket nearly every time; or they will always get a ticket for not having a safety belt on?** A total of 744 respondents gave a valid response to this item. About a fifth of respondents reported that a person is not likely to be ticketed for failure to use a safety belt. However, over three-quarters of respondents indicated there is at least a good chance of getting a ticket. Women were more likely than men to indicate a person will always get a ticket for safety belt nonuse, but gender differences across other response categories were small. The perceived likelihood of a ticket was generally lower among respondents age 40 and under than among older respondents. Among respondents who reported driving, the perceived likelihood of a ticket was higher among those reporting less than 10,000 annual miles driven than among those reporting more annual miles driven. The perceived likelihood of a ticket generally increased with increasing safety belt use (self-reported) and increased in 1992 from previous survey years.



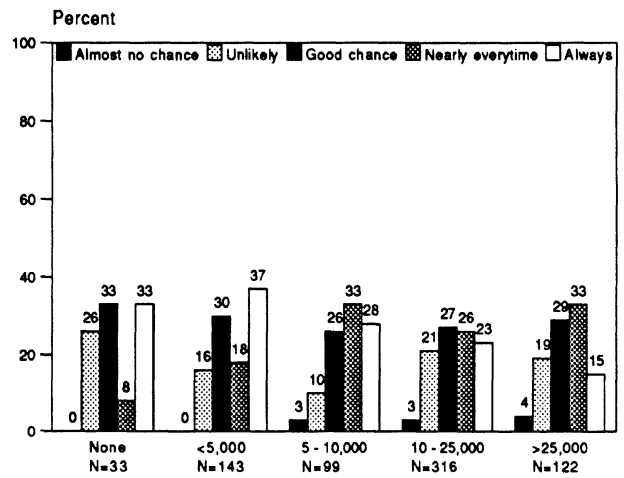
Chance of Being Ticketed for Safety Belt Nonuse



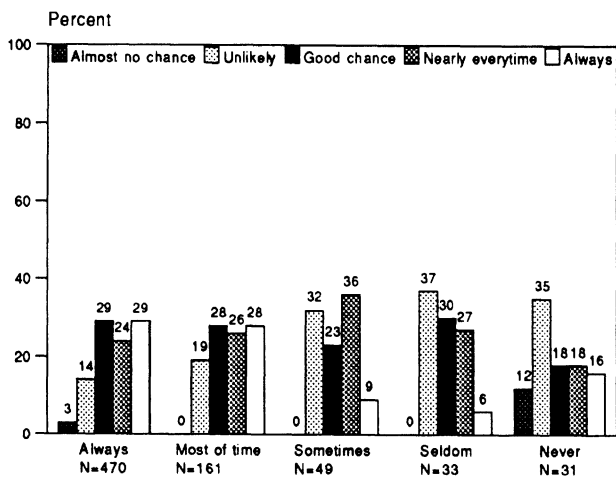
Chance of Being Ticketed for Safety Belt Nonuse, by Gender



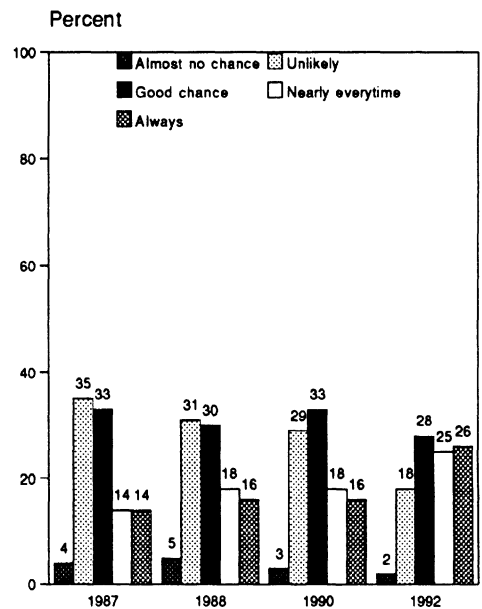
Chance of Being Ticketed for Safety Belt Nonuse, by Age



Chance of Being Ticketed for Safety Belt Nonuse, by Annual Miles Driven



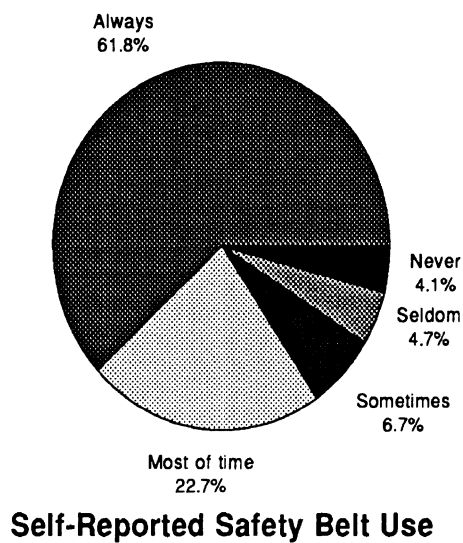
Chance of Being Ticketed for Safety Belt Nonuse, by Self-Reported Safety Belt Use



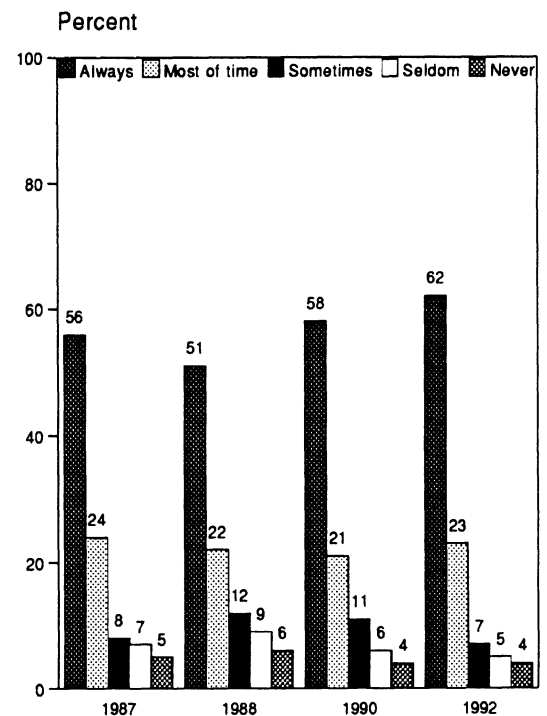
Chance of Being Ticketed for Safety Belt Nonuse, by Survey Year

Self-Reported Safety Belt Use

Respondents were asked: **Can you tell me how often you use a safety belt? Would you say always, most of the time, sometimes, seldom, or never?** A total of 753 respondents gave a valid response to this item. Over half of respondents reported that they always use safety belts and almost a quarter reported using belts most of the time. Only four percent reported that they never use safety belts. A 1992 direct observation survey of safety belt use in Michigan found that fifty-seven percent of front outboard occupants of passenger cars were using their shoulder belt (Streff, Molnar, and Christoff, 1993). This finding points to an upward bias in self-report data. Reported belt use was not related to gender, age, or annual miles driven. There has been an increase in the proportion of respondents reporting they always use safety belts since 1988.



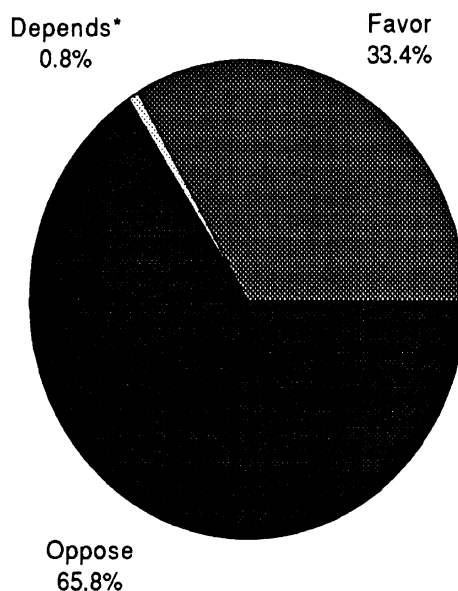
*Volunteered response



Self-Reported Safety Belt Use, by Survey Year

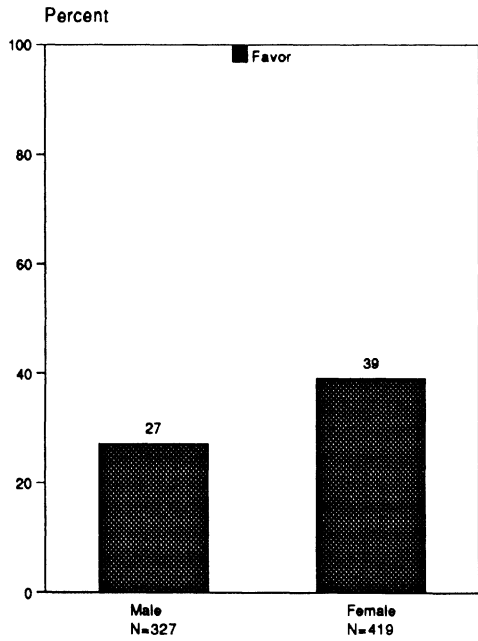
Changing Safety Belt Law to Primary Enforcement

Respondents were asked: **Michigan's safety belt law only allows police to ticket someone who is not using a safety belt if that person is first stopped for some other offense. Would you favor or oppose a safety belt law allowing police to stop someone just for not using a safety belt?** A total of 746 respondents gave a valid response to this item. Almost two-thirds of respondents opposed changing Michigan's safety belt law to allow primary enforcement. Support was higher among women than men, but a majority of each group opposed changing the law to allow primary enforcement. Respondents age 18-20 were the most likely age group to support such a change and the only age group voicing majority support. Support for primary enforcement generally increased as reported belt use increased; over forty percent of respondents who reported always using belts favored primary enforcement compared with seven percent of respondents who reported never using belts. Respondents who favored a helmet law for bicyclists were more than twice as likely as respondents who opposed a bicycle helmet law to support a primary enforcement safety belt law. Opinions were not related to voting status or annual miles driven and opinions did not change from 1990.

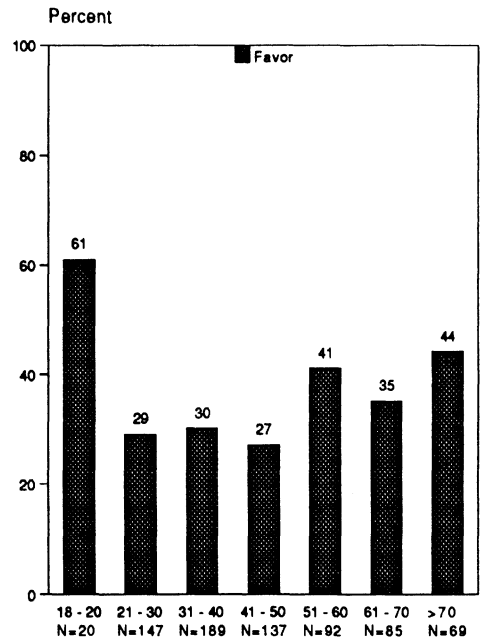


Changing Safety Belt Law to Primary Enforcement

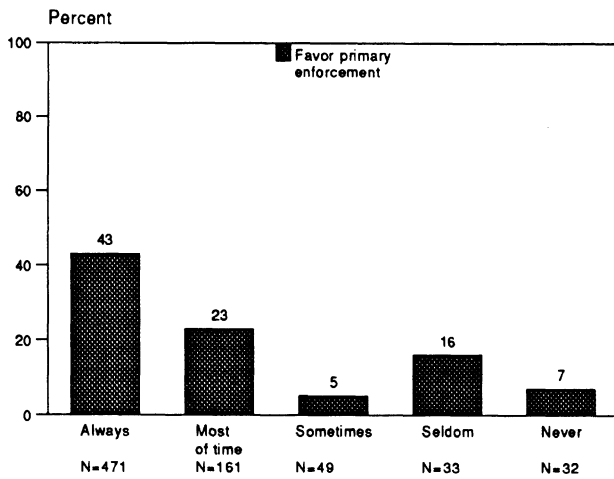
*Volunteered response



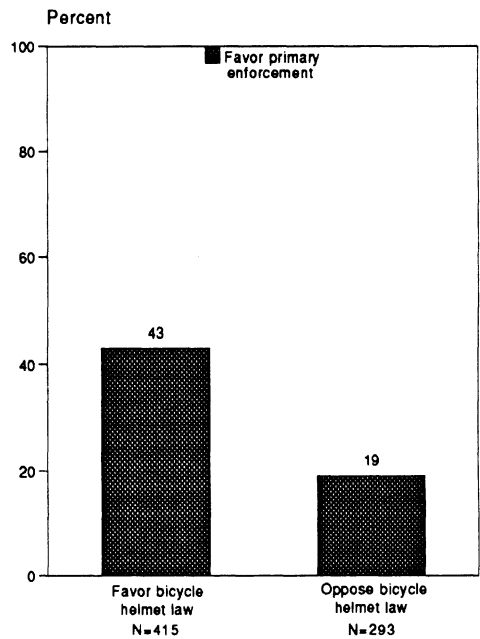
Changing Safety Belt Law to Primary Enforcement, by Gender



Changing Safety Belt Law to Primary Enforcement, by Age



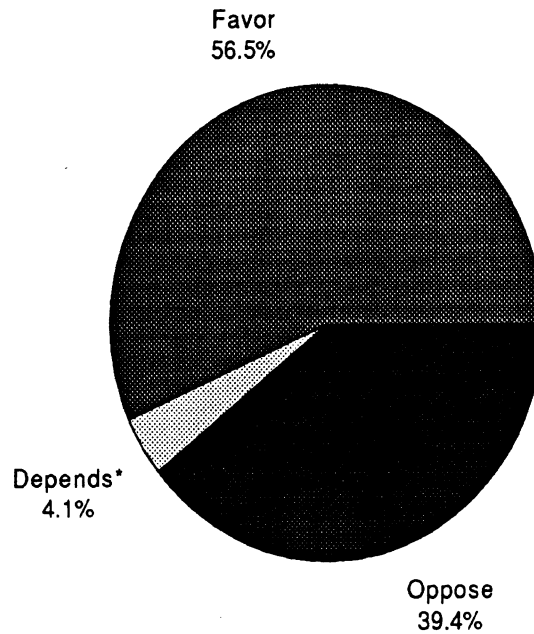
Changing Safety Belt Law to Primary Enforcement, by Self-Reported Safety Belt Use



Changing Safety Belt Law to Primary Enforcement, by Bicycle Helmet Law

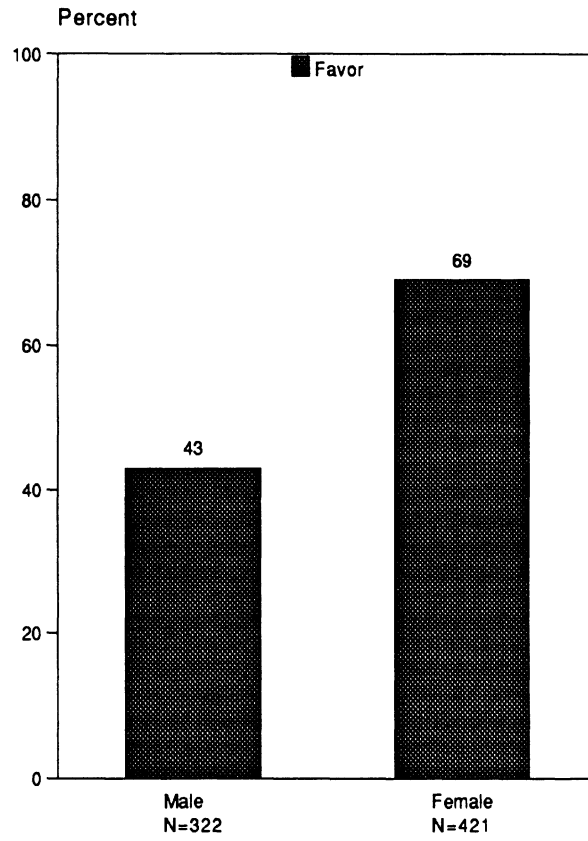
Bicycle Helmet Law

Respondents were asked: **Currently, Michigan law does not require bicycle riders to wear helmets. Would you favor or oppose a law that would require bicycle riders to wear helmets?** A total of 743 respondents gave a valid response to this item. Over half of respondents favored a law that would require bicycle riders to wear helmets. A majority of women favored a bicycle helmet law while a majority of men opposed such a law. Support for a bicycle helmet law was highest among respondents under age 21 and over age 50. Opinions were not related to voting status and there were no discernable differences across survey years.

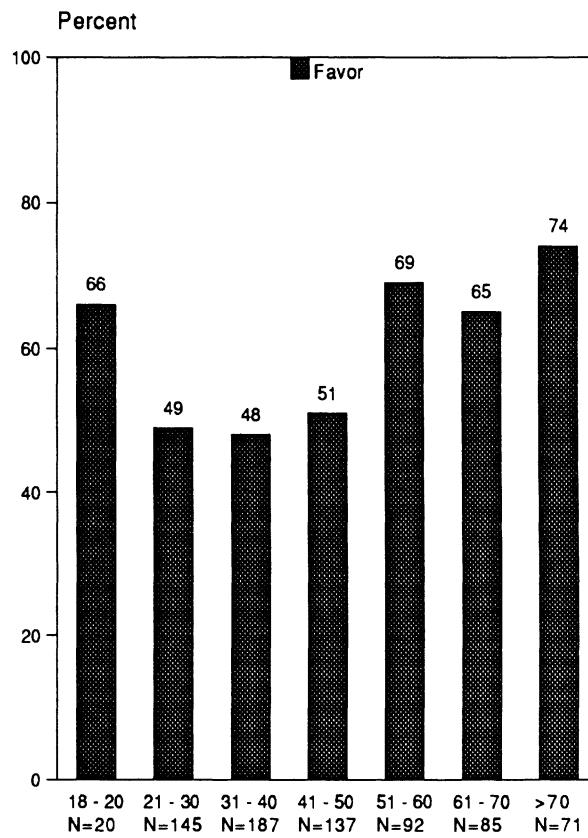


Bicycle Helmet Law

*Volunteered response



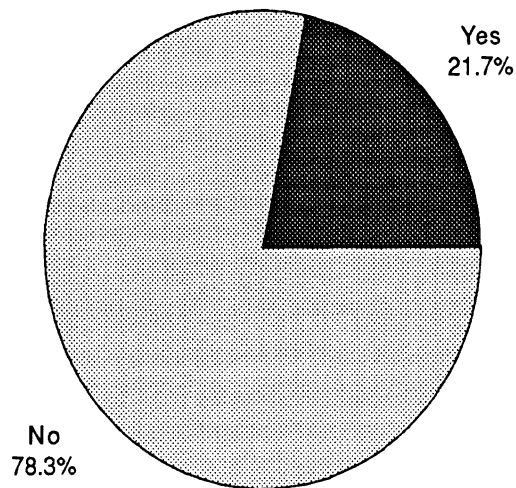
Bicycle Helmet Law, by Gender



Bicycle Helmet Law, by Age

Safety Belt Promotion Program at Work

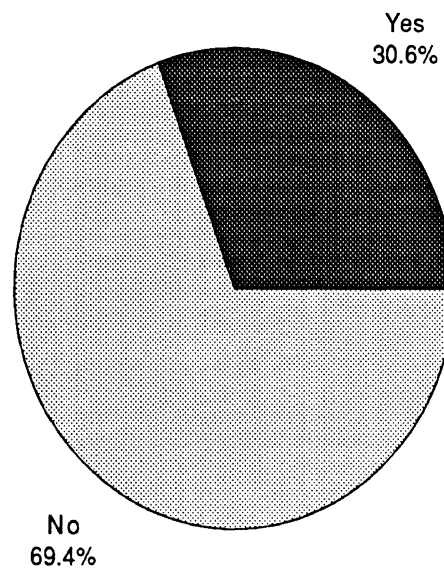
Respondents who reported that they were currently working or had been working were asked: **Is there now or has there been a safety belt promotion program at your place of work?** A total of 588 respondents gave a valid response to this item. Over three-quarters of respondents reported no safety belt promotion program at their place of work.



**Safety Belt Promotion
Program at Work**

Increase in Safety Belt Use Due to Safety Belt Promotion Program at Work

Respondents who reported a safety belt promotion program at their place of work were asked: **Do you think you use your safety belt more often because of the program?** A total of 126 respondents gave a valid response to this item. Close to a third of respondents reported increased safety belt use because of the program. Responses were not related to self-reported safety belt use.



Increase in Safety Belt Use Due to Program

Discussion

In this section we summarize general findings from the 1992 survey and examine patterns in opinions about traffic safety issues. There was majority support among residents of the state of Michigan for a number of traffic safety policies. These include: • graduated driver licensing for young beginning drivers; • graduated driver licensing for older drivers; • a driving curfew for older drivers; • reallocation of existing state spending for road reconstruction projects; • a zero BAC limit for drivers under age 21; and • requiring bicycle riders to wear helmets.

Majority support was lacking for the following policies: • increased state taxes for road reconstruction projects; • accountability of alcoholic beverage servers; and • changing Michigan's safety belt law to allow primary enforcement.

Opinions were evenly split regarding the following policies: • the desire for more police patrolling the roads for traffic violators; • a youth driving curfew; and • use of sobriety check lanes.

In general, opinions have changed little throughout the series of surveys. There were few changes in opinions between 1990 and 1992 and, for those items in which opinions did change, the changes were small. Support declined slightly for a youth driving curfew, accountability of alcoholic beverage servers, a zero BAC limit for drivers under age 21, and prohibiting the use of radar detectors.

Other changes between survey years included the following: • an increase since 1988 in driving speeds on Michigan's urban freeways and highways; • an increase from 1990 in the perceived likelihood that drivers must exceed the speed limit by at least 10 miles per hour on Michigan's rural freeways before risking a ticket; • an increase from 1990 in the perception that truck drivers drive less safely than car drivers and a decrease in the perception that they drive as safely; • a decrease from 1990 in the perceived likelihood of being pulled over for driving while impaired; • a decrease from 1990 in self-reported drinking to intoxication at home and an increase in self-reported drinking to intoxication at another's home or in a bar; • an increase from 1990 in self-reported driving after drinking to intoxication; • an increase from 1990 in the perceived likelihood of a ticket for safety belt nonuse; and • an increase since 1988 in the proportion of respondents reporting they always use safety belts.

Similar to earlier surveys in this series, women generally voiced stronger support than men for traffic safety policies. Specifically, higher proportions of women than men favored the following policies: • more police road patrols; • prohibiting radar detectors; • graduated driver licensing for young beginning drivers; • graduated driver licensing for older drivers; • a driving curfew for older drivers; • accountability of alcoholic beverage servers; • use of sobriety check lanes; • a zero BAC limit for drivers under age 21; • primary enforcement of Michigan's safety belt law; and • requiring bicycle riders to wear helmets.

Women generally perceived existing and potential traffic safety problems as more serious than men. For example, women were more likely than men to view the problem of alcohol-impaired driving in their community as very serious. Women were less likely to think truck drivers drive more safely than car drivers and were less likely to think traffic safety is treated as a high priority by state government.

Men were more likely than women to report risk taking behavior. Men reported higher driving speeds on both urban and rural freeways and were more likely to think speeds limits on freeways are set too low. Men also reported drinking alcoholic beverages more frequently and drinking to intoxication more frequently.

For those items exhibiting a relationship between opinions and age, no clear pattern emerged. For example, in some cases, the youngest and oldest age groups (age 18-20 and over 70) held opposing views or positions; in other cases, the two groups held complimentary views (e.g., respondents age 18-20 supported the legality of radar detectors while respondents over age 70 did not; however, both groups supported a bicycle helmet law). This was also true for many driving-related behaviors. For example, respondents age 18-20 were more than seven times as likely as respondents over age 70 to report driving speeds of at least 65 mph on urban freeways; at the same time, respondents age 18 to 20 and over 70 were both among the age groups reporting the lowest driving speeds on rural freeways.

Respondents over age 70 tended to report safer driving-related behavior and were often more supportive of traffic safety policies than other age groups (e.g., more police road patrols, prohibiting radar detectors, graduated driver licensing for young beginning drivers, youth driving curfew, accountability of alcohol beverage servers, helmet law for bicycle riders).

Respondents age 18-20 were less consistent in their views and positions on traffic safety policies. For example, they voiced majority support for the legality of radar detectors and, at the same time, were among the age groups most likely to report a desire for more police patrols and were the only age group to voice majority support for changing the safety belt

law to primary enforcement. They reported the second highest frequency of drinking to intoxication and yet their support of a zero BAC limit for drivers under age 21 was among the highest of any age group. They voiced the strongest opposition to a youth driving curfew (as might be expected) but, at the same time, gave majority support to graduated driver licensing for young beginning drivers.

Voting status and annual miles driven were not particularly helpful in making distinctions among respondents. Responses differed little between respondents who reported voting in the 1992 presidential election and those who did not. Relationships between annual miles driven and respondent opinions were found primarily among those items related to police and travel speeds. For example, the desire for more police road patrols and reported driving speeds on both urban and rural freeways increased as annual miles driven increased. Respondents who reported more than 25,000 annual miles driven were more likely than other respondents to indicate that drivers on rural freeways must exceed the speed limit by at least 10 mph before risking a ticket and more likely to indicate that police officers always violate speed limits without any job-related reason or violate them most of the time.

We examined several items by reported driving speeds on Michigan's urban and rural freeways. Higher freeway speeds were generally related to higher speeds at which drivers will be ticketed for exceeding the speed limit, higher support for the legality of radar detectors, and a lower desire for more police road patrols. Reported driving speeds on urban freeways were generally associated with a greater likelihood of reporting that speed limits on Michigan's freeways and other roads are set too low.

Nine items were added to the current survey to assess respondents' knowledge about a new set of alcohol-impaired driving laws implemented in Michigan. Respondents had little knowledge about the new laws. Less than a third of respondents chose the correct response for any single item and, for most items, less than a fifth chose the correct response. When total correct responses across all items were calculated for each respondent, we found that over three-quarters of all respondents had no more than two total correct responses. Less than one percent of respondents had seven total correct responses and no respondents had more than seven correct responses.

Many respondents appeared to guess at the correct answer (i.e., they chose incorrect responses to the items) and relatively large proportions of respondents reported they did not know the correct response. Responses to items were distributed across all possible response categories and in only one case did a majority of respondents choose a single response

category (and in that case, it was an incorrect response). When incorrect responses were chosen, there was not a consistent pattern to choices.

Results from the current survey provide important information about Michigan residents' traffic safety opinions and behaviors, as well as about their knowledge of new alcohol-impaired driving legislation in the state. This information can assist decision makers in their efforts to plan and implement new programs and policies and to evaluate existing programs and policies.

References

- Kish, L. (1965). *Survey Sampling*. New York, NY: John Wiley and Sons.
- Olson, P.L. (1988). *Effect of the 65-mph Speed Limit on Vehicle Speeds in Michigan*. Ann Arbor, MI: The University of Michigan Transportation Research Institute.
- Streff, F.M., Molnar, L.J., and Christoff, C. (1993). *Direct Observation of Safety Belt Use in Michigan: Summer 1992*. Ann Arbor, MI: The University of Michigan Transportation Research Institute.
- Traugott, M.W., Groves, R.M., and Lepkowski, J.M. (1986). *Using Dual Frame Designs to Reduce Nonresponse in Telephone Surveys*. Paper presented at the Annual Meeting of the American Association for Public Opinion Research, St. Petersburg, FL.
- Wagenaar, A.C., Streff, F.M., and Maybee, R. (1987). *Michigan Omnibus State Survey: Summer 1987*. Ann Arbor, MI: The University of Michigan Transportation Research Institute.
- U.S. Department of Commerce, Bureau of the Census (1986). *State and Metropolitan Area Data Book 1986, Statistical Abstract Supplement*. Washington D.C.: U.S. Government Printing Office.

Appendix A
Survey Questionnaire

This interview is completely voluntary - if we should come to to any question that you don't want to answer, just let me know and we'll go on to the next question.

A0

About how many miles did you drive a motor vehicle in the last year?

ENTER NUMBER FROM 0-999996. ENTER 999997 IF MORE THAN 999996.
ENTER 999998 IF DK, 999999 IF RF.

A1

Do you feel there are enough police patrolling the roads in Michigan looking for traffic violations, or should there be more police or fewer police patrolling the roads?

A2

- INAP.....0
- SHOULD BE MORE POLICE
- PATROLLING.....1
- ENOUGH POLICE PATROLLING.....3
- SHOULD BE FEWER POLICE
- PATROLLING.....5
- DK.....8
- RF.....9

How fast do you generally drive on Michigan's urban freeways and highways? (How many miles per hour is that?)

[ENTER ACTUAL MPH FROM 1-96. ENTER 97 IF MORE THAN 96 MPH.]
[ENTER 98 IF DK, 99 IF RF]

A3

MPH

How fast do you generally drive on Michigan's rural freeways and highways? (How many miles per hour is that?)

[ENTER ACTUAL MPH FROM 1-96. ENTER 97 IF MORE THAN 96 MPH.]
[ENTER 98 IF DK, 99 IF RF]

A4

MPH

Currently the speed limit on Michigan's urban freeways is 55 miles per hour. Where the limit is 55, how fast do you think you have to be driving before police using radar at the roadside will stop you and give you a ticket?

[ENTER ACTUAL MPH FROM 1-96. ENTER 97 IF MORE THAN 96 MPH.]
[ENTER 98 IF DK, 99 IF RF]

A5

MPH

Currently the speed limit on Michigan's rural freeways is 65 miles per hour. Where the limit is 65, how fast do you think you have to be driving before police using radar at the roadside will stop you and give you a ticket?

[ENTER ACTUAL MPH FROM 1-96. ENTER 97 IF MORE THAN 96 MPH.]
[ENTER 98 IF DK, 99 IF RF]

A6

MPH

Do you think the use of radar detectors - also called "fuzz busters" - should or should not be legal in Michigan?

	A7
INAP.....	0
SHOULD BE LEGAL.....	1
SHOULD NOT BE LEGAL.....	5
DK.....	8
RF.....	9

Some have suggested that young beginning drivers should become fully licensed gradually. Beginning drivers would be required to move from one level of driver license to another based on both experience and demonstrated skill before becoming fully licensed. Do you favor or oppose such a graduated licensing system for young beginning drivers?

	A8
INAP.....	0
FAVOR.....	1
DEPENDS (VOLUNTEERED).....	3
OPPOSE.....	5
DK.....	8
RF.....	9

Some have suggested that older drivers should gradually reduce the amounts and kinds of driving they do as driving ability declines. Older drivers would take more frequent driver examinations to identify driving-related problems and driving would be restricted if necessary. Do you favor or oppose such a graduated licensing system for older drivers?

	A9
INAP.....	0
FAVOR.....	1
DEPENDS (VOLUNTEERED).....	3
OPPOSE.....	5
DK.....	8
RF.....	9

Would you favor or oppose a law that would prevent persons under the age of 18 from driving between 11 o'clock at night and 5 o'clock in the morning, unless they could show a need to drive to or from school or work?

A10

INAP.....	0
FAVOR.....	1
DEPENDS (VOLUNTEERED).....	3
OPPOSE.....	5
DK.....	8
RF.....	9

How about persons over the age of 70 - would you favor or oppose a law that would prevent older persons from driving between 11 o'clock at night and 5 o'clock in the morning unless they take a screening exam to show they are fit to drive at night?

A11

INAP.....	0
FAVOR.....	1
DEPENDS (VOLUNTEERED).....	3
OPPOSE.....	5
DK.....	8
RF.....	9

Does anyone in your family have trouble driving safely because their driving ability has been affected by their advancing age?

A12

INAP.....	0
YES.....	1
NO.....	5
DK.....	8
RF.....	9

In general, do you think the freeways in Michigan are in good condition, average condition, or poor condition?

A13

INAP.....0
 GOOD CONDITION.....1
 AVERAGE CONDITION.....2
 POOR CONDITION.....3
 DK.....8
 RF.....9

How about the condition of major roads in your area?
 (Do you think the major roads in your area are in good condition, average condition, or poor condition?)

A14

INAP.....0
 GOOD CONDITION.....1
 AVERAGE CONDITION.....2
 POOR CONDITION.....3
 DK.....8
 RF.....9

Do you favor or oppose reallocating existing spending by the state to increase support for road reconstruction projects?

A15

INAP.....0
 FAVOR.....1
 DEPENDS (VOLUNTEERED).....3
 OPPOSE.....5
 DK.....8
 RF.....9

Do you favor or oppose increasing taxes by the state to increase support for road reconstruction projects?

A15a

INAP.....0
 FAVOR.....1
 DEPENDS (VOLUNTEERED).....3
 OPPOSE.....5
 DK.....8
 RF.....9

How often do you think police officers driving in police vehicles violate speed limits without any job related reason? Would you say they violate the speed limit always, most of the time, sometimes, seldom, or never?

A16

INAP.....0
 ALWAYS.....1
 MOST OF THE TIME.....2
 SOMETIMES.....3
 SELDOM.....4
 NEVER.....5
 DK.....8
 RF.....9

How often do you think police officers driving in police vehicles violate traffic laws other than the speed limit without any job related reason? Would you say they violate traffic laws other than the speed limit always, most of the time, sometimes, seldom, or never?

A17

INAP.....0
 ALWAYS.....1
 MOST OF THE TIME.....2
 SOMETIMES.....3
 SELDOM.....4
 NEVER.....5 ▶**A18**
 DK.....8 ▶**A18**
 RF.....9 ▶**A18**

What other laws do you think they violate?

ENTER ALL THAT APPLY

A17a

INAP.....	0,
RUN STOP LIGHT OR STOP SIGN.....	1,
FAIL TO YIELD RIGHT OF WAY.....	2,
ILLEGAL TURN.....	3,
OTHER - SPECIFY.....	7,
DK.....	8,
RF.....	9,

Do you think traffic safety is treated as a high priority by the state government?

A18

INAP.....	0
YES.....	1
NO.....	5
DK.....	8
RF.....	9

Do you think traffic safety is treated as a high priority by your local government?

A19

INAP.....	0
YES.....	1
NO.....	5
DK.....	8
RF.....	9

In general, do you think the speed limits on Michigan's freeways are set too high, too low, or about right?

	A20
INAP.....	0
TOO LOW.....	1
ABOUT RIGHT.....	2
TOO HIGH.....	3
DK.....	8
RF.....	9

In general, do you think the speed limits on the roads in your area other than freeways are set too high, too low, or about right?

	A21
INAP.....	0
TOO LOW.....	1
ABOUT RIGHT.....	2
TOO HIGH.....	3
DK.....	8
RF.....	9

The next few questions are about semi-trailer trucks. These are large trucks which include a cab and cargo-carrying trailer.

B1

Compared to most car drivers, would you say that drivers of semi-trailer trucks drive more safely, less safely, or about as safely?

	B2
INAP.....	0
MORE SAFELY.....	1
ABOUT AS SAFELY.....	3
LESS SAFELY.....	5
DK.....	8
RF.....	9

In the past 12 months, has your vehicle been damaged because it was hit by an object coming off or falling off a semi-trailer truck?

	B3
INAP.....	0
YES.....	1
NO.....	5
DK.....	8
RF.....	9

Do you think police enforce traffic laws more strictly, less strictly, or about the same for drivers of semi-trailer trucks as they do for car drivers?

	B4
INAP.....	0
LAWS MORE STRICTLY ENFORCED FOR TRUCK DRIVERS.....	1
ABOUT THE SAME ENFORCEMENT.....	3
LAWS LESS STRICTLY ENFORCED FOR TRUCK DRIVERS.....	5
DK.....	8
RF.....	9

We would now like to ask you some questions about drinking and driving.

How serious do you think the drunk driving problem is in your community - would you say it is very serious, somewhat serious, or not at all serious?

	C1
INAP.....	0
VERY SERIOUS.....	1
SOMEWHAT SERIOUS.....	3
NOT AT ALL SERIOUS.....	5
DK.....	8
RF.....	9

SKIP to: **C2-2**
if: (2)

If a customer gets drunk, leaves a restaurant or bar, and injures someone in a car crash, do you think the person who served the drinks to the customer should be held accountable for at least some of the damages caused by the customer?

	C2-1
INAP.....	0
YES.....	1
NO.....	5
DK.....	8
RF.....	9

SKIP to: **C3**
if: (not 2)

If a customer gets drunk, leaves a restaurant or bar, and injures someone while driving, do you think the person who served the drinks to the customer should be held accountable for at least some of the damages caused by the customer?

C2-2

- INAP.....0
- YES.....1
- NO.....5
- DK.....8
- RF.....9

A number of different proposals have been made to deal with the problem of people who drive after drinking. One proposal is to use sobriety check lanes where all cars traveling on a given road are stopped briefly to check for drivers whose driving ability is impaired by drinking. Do you favor or oppose the use of sobriety check lanes to prevent drunk driving?

C3

- INAP.....0
- FAVOR.....1
- DEPENDS (VOLUNTEERED).....3
- OPPOSE.....5
- DK.....8
- RF.....9

If a person has been drinking and their blood alcohol level is over the legal limit for driving, how likely is that person to be pulled over by the police? Would you say there is almost no chance they will get pulled over; it is unlikely but it happens sometimes; there is a good chance of getting pulled over; they will be pulled over nearly every time; or they will always get pulled over?

D1

- INAP.....0
- ALMOST NO CHANCE THEY WILL GET PULLED OVER.....1
- UNLIKELY, BUT IT HAPPENS SOMETIMES.....2
- THERE IS A GOOD CHANCE.....3
- WILL GET PULLED OVER NEARLY EVERY TIME.....4
- WILL ALWAYS GET PULLED OVER.....5
- DK.....8
- RF.....9

If a person had been drinking and their blood alcohol level is over the legal limit for driving and they have been pulled over by the police, how likely is that person to be arrested? Would you say there is almost no chance they will get arrested; it is unlikely but it happens sometimes; there is a good chance of getting arrested; they will get arrested nearly every time; or they will always get arrested?

	D2
INAP.....	0
ALMOST NO CHANCE THEY WILL GET ARRESTED.....	1
UNLIKELY, BUT IT HAPPENS SOMETIMES.....	2
THERE IS A GOOD CHANCE.....	3
WILL GET ARRESTED NEARLY EVERY TIME.....	4
WILL ALWAYS GET ARRESTED.....	5
DK.....	8
RF.....	9

Currently, it is illegal for anyone to drive with a blood alcohol level at or above .10 percent. Some have suggested that drivers who are under the legal age for drinking alcoholic beverages should not have any alcohol in their system when driving. Do you favor or oppose making it illegal for drivers under the age of 21 to drive with any alcohol in their system?

	D3
INAP.....	0
FAVOR.....	1
DEPENDS (VOLUNTEERED).....	3
OPPOSE.....	5
DK.....	8
RF.....	9

For the purpose of the following questions, when I say one drink, I mean one 12 ounce can or bottle of beer, or one 4 ounce glass of wine, or one drink with 1 1/2 ounces of liquor.

How often would you say that you drink alcoholic beverages? Would you say that you never drink, that you drink once or twice a year, once or twice a month, once a week, more than once a week, or every day?

- E1**
- INAP.....0
- NEVER DRINK.....1 **►E3**
- DRINK ONCE OR TWICE A YEAR.....2
- DRINK ONCE OR TWICE A MONTH.....3
- DRINK ONCE A WEEK.....4
- DRINK MORE THAN ONCE A WEEK.....5
- DRINK EVERY DAY.....6
- DK.....8
- RF.....9

Thinking about any drinking you may have done in the last two weeks, how many times did you have 4 or more drinks within 2 hours?

ENTER NUMBER FROM 0-21. ENTER 97 IF MORE THAN 21, 98 IF DK, 99 IF RF

E2

—

The last time you had 4 or more drinks in two hours, where were you drinking?

E2b

- INAP.....00,
- AT HOME.....01,
- IN ANOTHER PERSON'S HOME.....02,
- IN A TAVERN, BAR, OR COCKTAIL LOUNGE.....03,
- IN A RESTAURANT (WITH A MEAL).....04,
- AT WORK.....05,
- IN A PRIVATE OR FRATERNAL CLUB.....06,
- AT A SOCIAL EVENT (WEDDING, DANCE, ETC.).....07,
- AT A BUSINESS MEETING OR CONFERENCE.....08,
- IN A PARKED CAR.....09,
- IN A CAR WHILE DRIVING.....10,
- OUT OF DOORS (HUNTING, FISHING, GOLFING, ETC.).....11,
- WHILE AT A SPORTING EVENT.....12,
- OTHER - SPECIFY.....70,
- DK.....98,
- RF.....99,

On that occasion, did you do any driving after drinking?

E2c

- INAP.....0
- YES.....1
- NO.....5
- DK.....8
- RF.....9

Last January, a new set of drunk driving laws was passed in Michigan. The purpose of the following questions is to find out what people have learned about these new laws. If you don't know about a specific provision of the new law, please feel free to say so. Your answers will help design programs to better inform the general public about the specific points in these new laws that people don't understand well.

E3

After a driver is stopped for suspected drunk driving and has failed an alcohol test (for example, the driver takes a breath test and is found to be over the allowable alcohol limit), which of the following driver license actions will the police take?

E4

(After a driver is stopped for suspected drunk driving and has failed an alcohol test, which of the following actions will the police take?)

The driver's license will be immediately destroyed and driving privileges will be suspended until the driver can prove he or she is not guilty.

The driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court.

The driver will receive a citation requiring a court appearance, but nothing will happen to the driver's license until the case is resolved by the court.

E4a

- INAP.....0
- LICENSE DESTROYED/NO DRIVING.....1
- LICENSE DESTROYED/TEMP PERMIT.....2
- DRIVER RECEIVE CITATION.....3
- DK.....8
- RF.....9

After a driver is stopped for suspected drunk driving and the driver refuses to take a breath alcohol test, which of the following license actions will be taken on the spot?

The driver's license will be immediately destroyed and driving privileges will be suspended until the driver can prove he or she is not guilty.

The driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court.

The driver will receive a citation requiring a court appearance, but nothing will happen to the driver's license until the case is resolved by the court.

E5

- INAP.....0
- LICENSE DESTROYED/NO DRIVING.....1
- LICENSE DESTROYED/TEMP PERMIT.....2
- DRIVER RECEIVE CITATION.....3
- DK.....8
- RF.....9

When a person is convicted of drunk driving (for example, having a blood alcohol content above .10 percent), and it is the driver's first conviction for such an offense, which of the following court sentences is mandatory under the new Michigan law?

48 hours of jail time.

A 30-day license suspension that allows driving to and from work.

A 30-day license suspension that does not allow driving for any purpose.

E6

INAP.....	0
48 HOURS JAIL.....	1
30 DAY SUSPENSION W/TO AND FROM WORK.....	2
30 DAY SUSPENSION W/NO DRIVING ALLOWED.....	3
DK.....	8
RF.....	9

If a driver is convicted of carrying an open beer in the car while driving, that driver will receive which of the following court sentences under the new Michigan law?

A 30-day mandatory license suspension.

A mandatory \$500 fine and 4 points on their record.

A misdemeanor conviction and 2 points on their record.

A conviction of a civil violation (like a speeding ticket) and 2 points on their record.

E7

INAP.....	0
30-DAY SUSPENSION.....	1
\$500 FINE.....	2
MISDEMEANOR CONVICTION.....	3
CIVIL VIOLATION CONVICTION.....	4
DK.....	8
RF.....	9

If a person is convicted of drunk driving for a second time (for example a person is convicted with a blood alcohol content above .10 percent for a second time), which of the following court sentences is mandatory under the new Michigan law?

48 hours of consecutive jail time.

10 days of community service

48 hours of consecutive jail time or 10 days of community service.

E8

INAP.....	0
48 HOURS JAIL TIME.....	1
10 DAYS COMMUNITY SERVICE.....	2
EITHER JAIL OR COMMUNITY SERVICE.....	3
DK.....	8
RF.....	9

According to the new drunk driving laws in Michigan, a driver with a blood alcohol content above .10 percent is in violation of the law if that driver was:

Driving on a road maintained by the Michigan Department of Transportation or a local or county road commission.

Driving on any road.

Driving in an area generally accessible to motor vehicles.

Driving a motor vehicle anywhere, regardless of the area.

E9

INAP.....	0
DRIVING ON A MAINTAINED ROAD.....	1
DRIVING ON ANY ROAD.....	2
DRIVING IN ACCESSIBLE AREA.....	3
DRIVING ANYWHERE.....	4
DK.....	8
RF.....	9

Under the new law, if a person is convicted of drunk driving and his or her license is revoked, they can have their driving privilege restored during the period of revocation only if:

They can prove the revocation causes undue hardship.

They can prove they will lose their job if they cannot drive.

They can prove they are the only wage earner in the family and they will lose their job if they cannot drive.

The new law does not allow restoration of the driving privilege during the period of revocation.

E10

- INAP.....0
- PROVE UNDUE HARDSHIP.....1
- PROVE WILL LOSE JOB.....2
- PROVE ONLY WAGE EARNER.....3
- NO RESTORATION.....4
- DK.....8
- RF.....9

Under the new law, the Secretary of State's fee for returning a license to a person who has had his or her license revoked or suspended is:

READ ALL RESPONSE OPTIONS EXCEPT DK

E11

- INAP.....0
- \$50.....1
- \$75.....2
- \$125.....3
- \$200.....4
- ESTABLISHED BY THE JUDGE AS A
CONDITION OF THE CONVICTION.....5
- DK.....8
- RF.....9

Under the new law, the penalty for a person's first conviction for driving on a suspended, revoked, or denied license has been increased to a maximum of:

READ ALL OPTIONS EXCEPT DK

	E12
INAP.....	0
\$100.....	1
\$250.....	2
\$500.....	3
\$1000.....	4
ANY AMOUNT THE JUDGE DEEMS TO BE REASONABLE.....	5
DK.....	8
RF.....	9

Now we would like to ask you some questions on a different traffic safety topic.

If a person is not using a safety belt and is stopped for speeding, how likely is it they will get a ticket for not having a safety belt on? Would you say there is almost no chance they would get a ticket; it is unlikely, but it happens sometimes; there is a good chance of getting a ticket; they will get a ticket nearly every time; or they will always get a ticket for not having a safety belt on?

	F1
INAP.....	0
ALMOST NO CHANCE THEY WILL GET A TICKET.....	1
UNLIKELY, BUT IT HAPPENS SOMETIMES.....	2
THERE IS A GOOD CHANCE.....	3
WILL GET A TICKET NEARLY EVERY TIME.....	4
WILL ALWAYS GET A TICKET.....	5
DK.....	8
RF.....	9

Can you tell me how often you use a safety belt? Would you say always, most of the time, sometimes, seldom, or never?

F2

INAP.....0
 ALWAYS.....1
 MOST OF THE TIME.....2
 SOMETIMES.....3
 SELDOM.....4
 NEVER.....5
 DK.....8
 RF.....9

Michigan's safety belt law only allows police to ticket someone who is not using a safety belt if that person is first stopped for some other offense. Would you favor or oppose a safety belt law allowing police to stop someone just for not using a safety belt?

F3

INAP.....0
 FAVOR.....1
 DEPENDS (VOLUNTEERED).....3
 OPPOSE.....5
 DK.....8
 RF.....9

Currently, Michigan law does not require bicycle riders to wear helmets. Would you favor or oppose a law that would require bicycle riders to wear helmets?

F4

INAP.....0
 FAVOR.....1
 DEPENDS (VOLUNTEERED).....3
 OPPOSE.....5
 DK.....8
 RF.....9

Now we have some questions on a different topic.

We are interested in your present job status. Are you working now, temporarily laid off, unemployed, retired, a student, homemaker, or what?

	G1
INAP.....0,	
WORKING NOW, ON STRIKE, SICK	
LEAVE.....1,	
TEMPORARILY LAID OFF.....2,	
UNEMPLOYED, LOOKING FOR WORK.....3,	
RETIRED, DISABLED.....4,	
STUDENT.....5,	▶G2
HOMEMAKER.....6,	▶G2
OTHER - SPECIFY.....7,	▶G2
DK.....8,	▶G2
RF.....9,	▶G2

Is there now or has there been a safety belt promotion program at your ?

	G1a
INAP.....0	
YES.....1	
NO.....5	▶G2
DK.....8	▶G2
RF.....9	▶G2

Do you think you use your safety belt more often because of the program?

G1b

INAP.....	0
YES.....	1
NO.....	5
DK.....	8
RF.....	9

What is the highest grade of school or year of college you completed?

ENTER 0-16 YEARS OF SCHOOL, ENTER 17 IF GRADUATE WORK
ENTER 98 IF DK, 99 IF RF

G2

SKIP to: **G2b**
if: **G2** (> 12) and **G2** (< 98)

Did you get a high school diploma or pass a high school equivalency test?

G2a

INAP.....	0
YES.....	1
NO.....	5
DK.....	8
RF.....	9

SKIP to: **G3**
if: **G2** (< 13) or **G2** (> 16)

Do you have a college degree?

	G2b
INAP.....	0
YES.....	1
NO.....	5
DK.....	8
RF.....	9

In the recent presidential election, you remember that George Bush ran on the Republican ticket, Bill Clinton on the Democratic ticket, and Ross Perot as an Independent. Do you remember for sure whether or not you voted in that election. (Did you vote?)

	G3
INAP.....	0
YES, DID VOTE.....	1
NO, DID NOT VOTE.....	5
NOT OF VOTING AGE IN 1992.....	6
DON'T REMEMBER IF VOTED.....	7
DK.....	8
RF.....	9

To get a picture of people's financial situation, we need to know the general range of incomes of all people we interview. Now, thinking about (your/your family's) total income from all sources (including your job), did (you/your family) receive \$25,000 or more in 1991?

	G4
INAP.....	0
YES.....	1
NO.....	5 ▶G4d
DK.....	8 ▶G4d
RF.....	9 ▶G4d

Was it \$35,000 or more?

	G4b
INAP.....	0
YES.....	1
NO.....	5 ▶G5
DK.....	8 ▶G5
RF.....	9 ▶G5

Was it \$50,000 or more?

	G4c
INAP.....	0
YES.....	1 ▶G5
NO.....	5 ▶G5
DK.....	8 ▶G5
RF.....	9 ▶G5

Was it \$5,000 or more?

	G4d
INAP.....	0
YES.....	1
NO.....	5 ▶G5
DK.....	8 ▶G5
RF.....	9 ▶G5

Was it \$15,000 or more?

	G4e
INAP.....	0
YES.....	1
NO.....	5
DK.....	8
RF.....	9

How many telephones, counting extensions, do you have in your home?

	G5
INAP.....	0
ONE.....	1 ▶G6
TWO.....	2
THREE.....	3
FOUR.....	4
FIVE.....	5
SIX.....	6
MORE THAN 6.....	7
DK.....	8
RF.....	9

Do all the telephones have the same number?

	G5a
INAP.....	0
YES.....	1 ▶G6
NO.....	5
DK.....	8 ▶G6
RF.....	9 ▶G6

Altogether, how many numbers are there?

	G5b
INAP.....	0
TWO.....	2
THREE.....	3
FOUR.....	4
FIVE.....	5
SIX.....	6
MORE THAN 6.....	7
DK.....	8
RF.....	9

How many numbers are for business use only?

ENTER NUMBER FROM 0-6. ENTER 7 IF MORE THAN 6. ENTER 8 IF DK, 9 IF RF

G5c

—

As far as you know, is the number I dialed, , listed in the current telephone book? [IF NO] Why isn't it listed?

- G6**
- INAP.....0
- YES.....1
- NO - UNLISTED.....2
- NO - TOO RECENT TO BE LISTED.....3
- DK.....8
- RF.....9

These are all the questions I have. Thank you very much for your time and your help with our research. We will be glad to send you a summary of some of the results from this survey after the analysis has been completed. In order to do that, I will need your name and mailing address.

RECORD NAME AND ADDRESS ON NEXT SCREEN. IF R DOES NOT WANT RESULTS, SIMPLY ENTER NAME AS REFUSED. END TIME WILL BE STAMPED WHEN YOU LEAVE THIS SCREEN.

X1

FOR A WOMAN, ENTER HER FIRST NAME, NOT HER HUSBAND'S FIRST NAME IF R DOES NOT WANT RESULTS, ENTER RF FOR ALL FIELDS.

NAME:

X2

ADDRESS:

CITY:

STATE:

ZIP CODE:

PLEASE PROVIDE A FEW WORDS ABOUT THIS RESPONDENT WHICH WOULD
HELP YOU REMEMBER THE INTERVIEW IF YOU HAD TO CALL BACK.

T1

PLEASE DESCRIBE ANY AMBIGUOUS OR CONFLICTING SITUATION THAT YOU
WANT CODING OR PROJECT STAFF TO KNOW ABOUT. IF NONE, ENTER "NONE".

T2

WERE THERE ANY SERIOUS PROBLEMS WITH THE INTERVIEW, SUCH AS R'S
DIFFICULTY IN HEARING OR UNDERSTANDING THE QUESTIONS, ETC.,
WHICH AFFECTED THE QUALITY OF THE INTERVIEW? IF NONE, ENTER
"NONE".

T3

THIS IS THE END OF THE INTERVIEW. WHEN YOU PRESS [ENTER], YOU
WILL EXIT THE CASE.

T4

Appendix B
Instructions to Interviewers

Michigan Omnibus State Safety Survey: Fall 1992
QxQ's

The following pages contain general guidelines to be followed when administering the Michigan Omnibus State Safety survey in the Fall 1992. The focus of this study includes attitudes of Michigan residents toward general transportation issues, driving, and traffic safety. These items are being collected for the University of Michigan Transportation Research Institute with funding from the state of Michigan. The results will be used for aggregate statistical purposes and will eventually be published in a report for the state.

The sample consists of 750 respondents. In an attempt to increase the response in this study, more than 600 advance letters were sent to some of the households in which interviews will be taken.

As for general comments on survey procedures, some of the questions in this survey will elicit additional comments from the respondents. In order to minimize interviewing time, and therefore cost, you will not be asked to record all of the respondent's comments in detail. Use the F2 key only for those items with a "pro-con" response category, or an explicit statement to record R's comments.

For all questions, you should still employ the follow-up probes in the usual form, and you should not cut short respondents' elaborations of their responses. However, please do not record these comments in the computer except as indicated on the terminal screen.

For some items, you will find a "Depends" response among the categories, although this is not included in the question wording. If the respondent offers a "pro-con" or depends response after you have repeated the questions or the response categories once, then use this response category but do not record the verbatim response with F2.

More detailed comments on selected survey items follow:

- A1. This question asks how many miles respondents have driven in the past year. Please note that motor vehicle refers to only cars, trucks, and motorcycles. Cars are to be defined as vans, pickup trucks or any other utility vehicles such as Broncos, Jeeps, Blazers, etc. Trucks refer to semi-trailer trucks, and motorcycles refer to any two-wheeled cycle with an engine size larger than 50cc. Please note that the category "motorcycles" excludes mopeds. If respondents ask if "miles as a passenger" gets included in the total, the interviewer should specify that the question refers to "miles driven." Also, the interviewer should note that this question refers to miles driven on highways or roads.

For this item, responses of "don't know" should be coded as 999998 not 98; responses of "Don't Drive" should be coded as 0.

- A2 This question asks for respondents' opinions about whether there are enough police traffic patrols in Michigan.

- A3-7 These questions generally deal with speed limits in the state of Michigan. Respondents are asked both how fast they travel on certain roads and their attitudes toward various speed issues. If respondents desire a definition of freeways, the interviewer may specify that a freeway is a "limited-access, multi-lane highway that has no intersections and requires the use of ramps for entering and exiting." If respondents ask what we mean by urban freeways, tell them these are freeways near more densely populated areas like cities where the speed limit is generally 55 mph. In the following item, rural freeways are freeways in less-populated areas, and speed limits are as high as 65 mph on some of these roads. In questions A3-6, if a range of speeds is provided by a respondent, the highest speed in that range should be recorded by the interviewer. If respondents state they "do the speed limit," the interviewer should ask them "how many miles per hour is that?"
- A5-6 These questions present scenarios in which the respondent is driving on a freeway in Michigan, and a police car with radar is on the side of the road timing each car as it passes. The respondent is asked to specify how fast he/she would have to be going in order to be pulled over by the police. If the respondent does not specify a mile per hour figure, i.e. responds with "eight miles over the speed limit," the interviewer is to add that figure to 55 or 65 (as appropriate), and record that figure as the response. If the respondent does not drive, ask them how fast they think the average driver would have to drive to be pulled over and given a ticket.
- A7 If respondents express confusion over what a radar detector (or fuzzbuster) is, the interviewer may specify that it is "a device some people have in their vehicle to warn them when police are using radar in the area to find speeders."
- A8- These questions deal with respondents' opinions and attitudes
A11 concerning driver licenses. Question A8 deals with changes in driver licensing that would allow young beginning drivers to learn driving skills more gradually before becoming fully licensed. Question A9 deals with changes in driver licensing that would allow older drivers to continue to drive as long as they could do so safely. Question A10 deals with youth curfews. Question A11 deals with strategies to deal with problems drivers experience with driving as their night vision and reaction time deteriorates.
- A12 This question deals with the effects of advancing age on driving.
- A13- These questions ask for respondents' opinions about the condition
A14 of Michigan freeways and major roads. In question A14, if respondents want to know what is meant by "in your area", the interviewer may specify that it refers to "whatever you consider your community to be."
- A15- These questions ask for respondents' opinions about whether
A15a investment by the state for road reconstruction projects should be increased. Question A15 asks about reallocating existing spending to pay for such projects. A15a asks about increasing taxes to pay for such projects.

- A16- These questions deal with respondents' opinions about police violation of traffic laws. Question A16 asks respondents how often police violate speed limits without any job-related reason. Question A17 asks respondents how often police violate traffic laws other than speed limits without any job-related reason. Traffic law violations other than speed limit violations include (but are not restricted to) running a stop light or a stop sign, failure to yield right of way, and illegal turns. Question A17a asks respondents to identify what traffic laws other than speed limits they think police violate. Multiple responses to this question are allowed.
- A18- These questions deal with respondents' opinions about whether traffic safety is treated as a high priority by state and local governments. A18 asks about state government and A19 asks about local government.
- A20- These questions deal with respondents' opinions about whether speed limits on Michigan freeways and roads are set too high, too low, or about right. The questions ask for respondents' opinions based on individual beliefs about what are realistic speed limits. If respondents ask what they should base their answers on (for example, if they say "set too high for what?"), the interviewer may specify "based on what you believe the speed limit should be".
- B1-4 These items deal with respondents' assessments and attitudes concerning semi-trailer trucks on Michigan roads. For question B1, respondents are asked to consider if semi-truck drivers differ from car drivers "on average." In question B3, such objects include (but are not restricted to) gravel, other loads, and retreaded tires breaking up. Question B4 attempts to get at differential treatment of car drivers and semi-trailer truck drivers. If respondents say "it depends" or something similar in nature, the interviewer should specify "in general..." and repeat the question.
- C1-3 These questions deal with respondents' attitudes and opinions related to drinking and driving. In question C2 we want to know if respondents think the server should be held responsible for at least some of the damages caused by the intoxicated driver (even if that is only a very small fraction of the damages).
- C3 This item refers to all cars. Checklanes are also often called checkpoints.
- D1- Interviewers should note that for questions D1 and D2, we are interested in which chance is closer to the respondent's perception of the odds of being pulled over and arrested by the police. Note that question D1 assumes that the driver is intoxicated, and question D2 assumes the driver has been pulled over, his/her blood alcohol content has been tested (by blood or breath sample) and the driver has been found to be over the legal limit.
- D3 Read the blood alcohol using the following pronunciation: .10 = "point one oh"

- E1 This question assesses how often respondents drink alcohol.
- E2 These questions assess how heavily respondents drink as well as whether they drive after drinking to intoxication.
- E3-
E12 These questions deal with respondents' knowledge about the new drunk driving laws passed in Michigan. Note that we are *not* asking for opinions in these questions. We are trying to find out what respondents know about these laws--there is a correct answer for each question. If respondents ask what the correct answers are for the questions, the interviewer should tell them that he or she would be happy to provide that information after the entire survey has been completed. Corrected answers for each question are provided in the QxQ's.
- If respondent's identify responses by numbers (i.e. "the second one"), verify by repeating the selected response.
- Do not probe DK responses in this series.
- E4-5 These questions ask about the driver license actions that will be taken by police on the spot (i.e., at the time of arrest for drunk driving). Question E4 asks about a situation in which the driver has taken an alcohol test and failed. E5 asks about a situation in which the driver has refused to take a breath alcohol test. **The correct answer to both E4 and E5 is "the driver's license will be immediately destroyed and the driver will receive a temporary permit until the case is resolved by the court."**
- E6 This question asks what the mandatory court sentence is for a first-time conviction for drunk driving. **The correct answer is "a 30-day license suspension that does not allow driving for any purpose."**
- E7 This asks what the court sentence is for a conviction of carrying an open container of beer in a car while driving. If respondents ask if the question refers to a first- or second-time conviction, the interviewer should specify "in general" and repeat the question. **The correct answer is " a misdemeanor conviction and 2 points on their record."**
- E8 This asks what the mandatory court sentence is for a second-time conviction for drunk driving. Note that this is in contrast to question E6 that asks about a first-time conviction. **The correct answer is "48 hours of consecutive jail time or 10 days of community service."**
- E9 This question asks about the conditions under which a driver will be considered in violation of the law if his or her blood alcohol content is above .10 percent. Specifically, the item asks where the driver has to be driving to be charged with a law violation. If respondents ask what is meant by an "area generally accessible to motor vehicles", the interviewer may specify that such areas include roads and areas other than government maintained roads where people drive such as parking lots and mobile home lots. **The correct answer is "driving in an area generally accessible to motor vehicles."**

- E10 This asks about the conditions that must be met for a driver's driving privileges to be restored (during the period of license revocation) if that driver has been convicted of drunk driving and his or her license has been revoked. The correct answer is "the new law does not allow restoration of the driving privilege during the period of revocation."
- E11 This asks what the fee is for returning a revoked driver license. The correct answer is \$125."
- E12 This asks what the fine is for a first-time conviction for driving on a suspended, revoked, or denied license. The correct answer is "\$500."
- F1 This question deals with respondents' opinions about the Michigan safety belt law. If respondents seem to be unsure about what is being sought in question F1, the interviewer may want to emphasize that "we want you to think about what is likely to happen, not what you think should happen."
- F2 This question asks respondents about their own safety belt use.
- F3 Question F3 concerns potential changes to the current safety belt use law. The question asks respondents to give their opinion about changing Michigan's adult belt use law from a secondary offense (people can't be pulled over just for safety belt nonuse) to a primary offense (people can be pulled over just for belt nonuse).
- F4 This question deals with respondents' opinions about whether bicycle riders should be required to wear helmets.
- G1 This is a basic demographic question and is standard format.
- G1a, G1b These deal with safety belt promotion programs at the worksite and their effects on safety belt use.
- G2- G6 These questions are basic demographic questions and are standard format. The response section for each question should be sufficient for interviewers to handle problems, if any, that may arise during this section of the survey. For question G3, we are interested only in whether the respondent voted, not for whom.

Appendix C

Description of Sample Design¹

¹The author of this appendix is the sampling section of the Survey Research Center at the Institute for Social Research at the University of Michigan.

Technical Memorandum
Sampling Section
Subject: 1992 Michigan Highway Safety Sample
Date: 11 February 1993

I. Introduction

The 1992 Michigan Highway Safety Study is a telephone survey of Michigan household residents. The purpose of the survey is to study attitudes toward and knowledge about highway safety issues. The study population is Michigan telephone household members who are at least 18 years of age. Interviews were conducted by the SRC Telephone Facility interviewers during the period from November 3rd to December 13th, 1992.

The 1992 Michigan Highway Safety Study uses an equal probability Random-Digit Dial (RDD) design with telephone numbers selected using the GENESYS system.¹ The sample was designed to produce a proportional (epsem) distribution between listed and unlisted numbers. Households with listed numbers would be evenly split into two groups: those receiving an advance letter and those which do not receive an advance letter. The sample can be divided into three groups: (1) Households with unlisted numbers², (2) Households with listed numbers which receive an advance letter, and (3) Households with listed numbers which do not receive advance letters. The use of advance letters was expected to increase the response rate.

Including the introduction, this report is divided into four parts. The second part compares the sample design assumptions to the actual survey results. The third part describes the sample design. The final part is a discussion of sample weights.

II. Sample Design Assumptions

A total of 750 completed interviews was desired. Table 1 shows the sample design specifications and assumptions and the actual results.

¹The GENESYS system is a PC-based system designed by Marketing Systems Group. This system allows the user to select epsem RDD samples from a frame consisting of all possible phone numbers which can be generated from hundred series (the first eight digits of a phone number) with at least two listed household numbers.

²In this case, unlisted numbers are those which are not included in Marketing Systems Group's 100% frame of listed numbers which is based on the Donnelley file of directory listings. Some "unlisted" numbers might have been assigned after the Donnelley frame was compiled or may be in a directory that was not covered.

Table 1: Sample Design Specifications and Assumptions
1992 Michigan Highway Traffic Safety Survey

	TOTAL		LISTED Letter		LISTED No Letter		NOT LISTED	
	Assumed	Actual	Assumed	Actual	Assumed	Actual	Assumed	Actual
Interviews	750	753	230	231	230	218	290	304
Response Rate	.72	.66	.72	.73	.72	.69	.72	.59
Sample HH	1042	1143	319	316	319	315	403	512
Working Rate	.53	.58	.88	.87	.88	.87	.32	.41
Samp. Nos.	1971	1971	362	362	362	362	1247	1247

Half of the households selected for the list portion received letters which alerted the household members to the upcoming survey and explained the purpose of the survey. This letter was expected to increase the group's response rate. The list portion of the sample which received the letter did have a higher response rate than the listed/no letter part--73% (listed/letter) versus 69% (listed/no letter). The response rate for non-listed cases was 59.4%. However this rate is artificially low.

Because of budget constraints, approximately 90 cases were closed out as non-interviews rather than non-sample. Of these, 25 were answering machines which were legitimately non-interviews. A large portion of the remainder was probably non-working. However, the required number of interviews were obtained before some of the grid cases could be closed out and there were no funds available for additional interviews or calling. Therefore, the working rate appears higher and the response rate lower than expected--especially for non-listed cases which were more likely to be non-working.

Certain assumptions which were made at the sample design stage proved to be incorrect. The overall working rate which was assumed to be 53% turned out to be 58%. The fifty-three percent estimate was based on previous experience with the listed-hundred series design for a national study. The rate for Michigan was higher. Previously, listed hundred series with only one listed household number were included in the sampling frame. For this study, the standard GENESYS option was used (two or more listed household numbers required for inclusion of hundred series.)

III. Description of Sample Design

A. *Comparison of Telephone Sample Designs*

In previous Michigan Highway Safety Studies, a dual-frame design was used. Part of the sample was selected using RDD methods (either the Mitofsky-Waksberg design or a version of the Listed Hundred Series design) and part from a purchased sample of directory listings. The 1992 study was selected entirely from the Listed Hundred Series frame using the GENESYS sampling system.

There are several advantages to the single-stage "listed hundred series" (LHS) RDD design as compared to the Mitofsky-Waksberg RDD design: (1) The LHS design can be administered in the same way as a list sample since it does not involve conditional replacement of non-working numbers. (2) There is no clustering which means that the sample is equivalent to a stratified random sample. The sampling errors will be lower than those for the clustered Mitofsky-Waksberg RDD design. (3) There is no primary number calling.

A disadvantage of the new design is that, unlike the Mitofsky-Waksberg design, the LHS does not guarantee complete coverage of telephone households. Households which are in hundred series with only unlisted household numbers or in hundred series which were created after the frame creation date are not covered. An analysis of the coverage of the LHS frame was done by comparing its coverage to the Survey of Consumer Attitudes (SCA)³, a series of surveys which uses the Mitofsky-Waksberg frame. The analysis found that only 2.8 percent of the SCA respondents from a 30-month period (May 1989 - November 1991) were not covered by the May 1990 LHS frame. Another analysis compared working primary numbers from the period April 1989 through April 1991 to a May 1990 LHS frame and found that 3.5% were not covered by the May 1990 LHS frame. For the time period within six months of the frame date, the non-coverage is less than 2 percent.⁴

There is also an advantage to using the LHS design for the entire sample instead of using the dual frame design. The LHS sample is equal probability so there is no requirement for household level sampling weights. Typically, for a sample allocation of 50 percent list and 50 percent RDD, the household level sampling weights in the dual frame design have been in the ratio of about 2.6 to 1. If about 1/3 of the RDD cases are unlisted, then 1/6 of the total sample

³The Survey of Consumer Attitudes is a monthly survey conducted by the Survey Research Center at the University of Michigan. It was started in the late 1940's by Professor George Katona. Since 1976 it has been under the direction of Dr. Richard Curtin. The SCA uses a rotating panel design. Each month's sample consists of a new selection of approximately 300 RDD cases and 200 cases from the prior six month's survey.

⁴Connor, Judith and Steven G. Heeringa. "Evaluation of two cost efficient RDD designs," presented at AAPOR 47th Annual Conference, St. Petersburg Beach, FL, May 18, 1992.

will have a weight of 2.6. This variation in weights results in a loss of effective sample size of approximately 18 percent. The precision of estimates is less than the nominal sample size would indicate. For a nominal sample size of 750, the effective sample size would be about 615⁵

B. Implementation of LHS Design

In addition to the GENESYS RDD sampling system, Marketing Systems Group maintains a 1-in-5 sample of names and addresses from its Donnelley 100 percent file of all listed household telephone numbers. If names and addresses were required for all listed numbers, a sample five times as large as required by the sample specifications could be generated. The 1992 Michigan Highway Safety Study design requires that names and addresses be available for half of the listed numbers. Therefore a sample 2.5 times as large as would be necessary without the name and address requirement was selected.

Table 1 shows that approximately 1,971 telephone numbers were required for 750 interviews given the anticipated response rate of 72 percent and working rate of 53 percent. This number was increased to 2,100 to allow for reserve sample (replicates) in case the working rate was lower than expected. About 65 percent of the working telephone numbers were expected to be present in the Donnelley 100 percent frame of listed household numbers and therefore counted as "listed". Marketing Systems Group was able to identify whether each selected number was present in the Donnelley frame and to provide names and addresses for numbers which appeared in their 1-in-5 name/address random sample.

In order to obtain the desired 2,100 sample lines, a sample of 5,250 RDD numbers was selected using the GENESYS system. This is 2.5 times the 2,100 desired. This sample was sent to GENESYS. GENESYS attached a flag to each of the 5,250 numbers to indicate whether or not it appeared in their Donnelley frame of all listed household numbers. They also provided the name and address of any sample number which appeared in their 1-in-5 sample of listed numbers. Table 2 shows the design of the LHS RDD sample.

⁵The formula for the approximate loss factor (L) due to weighting is:

$$L = \frac{\sum_1^H P_h W_h^2}{\left(\sum_1^H P_h W_h\right)^2}$$

$$L = \frac{.17(2.6)^2 + .83(1)}{(.17(2.6) + .83(1))^2} = 1.22$$

The nominal sample size/L = the effective sample size.

Table 2: LHS RDD Sample Design

RDD Numbers Generated:	5,250	(2.5 * 2,100)	
Estimated Working Rate:	.53		
Estimated Working Numbers:	2,783		
Estimated Listed Rate:	0.65		
Estimated Listed Numbers:	1,809		
Name and Address Sampling Rate:	.20		
		<u>Prop. to Keep</u>	<u>Total Cases</u>
Cases with Name and Address:	362	1.0	362
Listed Cases Without Name and Address:	1,447	0.25	362
Unlisted Working Numbers:	974	0.40	390
Non-Working/Non-HH Numbers:	2,467	0.40	987

The number of cases was multiplied by 2.5 in order to obtain enough listed numbers with names and addresses. Therefore for both categories of cases, listed and not listed, the number of cases is scaled back by dividing by 2.5 ($1/2.5 = .4$). For the listed cases, 60 percent of the TOTAL listed cases ($.6 * 1,809$) are removed from the listed cases without names and addresses and all cases with names and addresses were kept in the sample. This results in an approximately equal number of listed number cases in each of the two experimental groups, which is an optimal allocation for detecting statistically significant differences.

IV. Use of Sampling Weights

Although residential telephone numbers were selected with equal probability, a household with more than one non-business telephone number would have a higher probability of selection. Therefore a household weight which is the reciprocal of the number of residential telephone numbers is calculated for each household. Because only one person in a household was selected to be the respondent from all eligible household members (persons 18 and over), persons in smaller households have a greater chance of selection than persons in larger households. Therefore for person level analyses, the household weight is multiplied by the number of eligible persons in the household.

In addition to the household and person level sampling weights, a post-stratified weight was constructed to match the sample proportions for sex by age category to 1990 Census proportions for Michigan. A centered analysis weight should be used with certain statistical packages which treat the sum of weights as the number of cases. Use of the centered analysis weight will force the sum of weights to equal the number of cases. A sampling weight should be used for all analyses involving univariate descriptive statistics or simple regressions. A statistician should be consulted about the use of weights for more complex multivariate analyses.

An OSIRIS dictionary and data set containing weights for the Michigan Highway Safety Study have been permitted to the MTS account SYEP. The files are: SQSS:MHSWGT.DI and SQSS:MHSWGT.DA. The data set contains the following variables:

- V3 HHWGT** The household weight based on the probability of selection of the household (calculated based on the number of nonbusiness telephone lines in the household).
- V4 PERSONWT** The person-level weight, calculated by multiplying the household weight by the number of adults in the household.
- V5 FINALWGT** The final weight is calculated by multiplying the person-level weight by a post-stratification factor. This factor adjusts the sample proportions from twelve sex by age group cells to conform to the 1990 Census estimates of the sex by age group cells for Michigan. Table 3 shows the post-stratification factors for each sex by age group cell:

Table 3: Post-Stratification Factors

MALES		FEMALES	
<u>Age Group</u>	<u>Adjustment</u>	<u>Age Group</u>	<u>Adjustment</u>
18-24	1.2063	18-24	1.4111
25-29	1.2995	25-29	0.9878
30-39	1.0063	30-39	0.8830
40-49	0.9626	40-49	0.8450
50-59	0.9897	50-59	0.8121
60+	0.9510	60+	1.0651

- V6 CENTERWT** The centered weight is an adjusted, or centered, version of the final weight. With this adjustment, the sum of the sample weights is equal to the sample size, n=753 completed interviews.

Table 4 shows the proportions in each of the twelve sex by age group cells prior to the post-stratification adjustment. The sample has been weighted by V4, the sampling person weight.

Table 4: Sex by Age Group Percents without Post-stratification Factor

	Age Group					
	18-24	25-29	30-39	40-49	50-59	60+
Males						
Census	7.3	5.5	11.2	8.5	5.8	9.3
Sample	6.1	4.2	11.1	8.8	5.8	9.8
Females						
Census	7.4	5.7	11.6	8.8	6.2	12.8
Sample	5.2	5.7	13.2	10.4	7.6	12.0

Table 5 shows the proportions in each of the twelve sex by age group cells after the post-stratification adjustment. The sample has been weighted by V6, the centered weight.

Table 5: Sex by Age Group Percents with Post-stratification Factor

	Age Group					
	18-24	25-29	30-39	40-49	50-59	60+
Males						
Census	7.3	5.5	11.2	8.5	5.8	9.3
Sample	7.3	5.5	11.2	8.5	5.8	9.3
Females						
Census	7.4	5.7	11.6	8.8	6.2	12.8
Sample	7.4	5.7	11.6	8.8	6.2	12.8

Appendix D
Confidence Interval Bands for Univariate Percentages

Confidence Interval Bands for Univariate Percentages					
Percent					
Unweighted N	10/90	20/80	30/70	40/60	50
0	10.0	20.0	30.0	40.0	50.0
50	4.2	5.7	6.5	6.9	7.1
100	3.0	4.0	4.6	4.9	5.0
150	2.4	3.3	3.7	4.0	4.1
200	2.1	2.8	3.2	3.5	3.5
250	1.9	2.5	2.9	3.1	3.2
300	1.7	2.3	2.6	2.8	2.9
350	1.6	2.1	2.4	2.6	2.7
400	1.5	2.0	2.3	2.4	2.5
450	1.4	1.9	2.2	2.3	2.4
500	1.3	1.8	2.0	2.2	2.2
550	1.3	1.7	2.0	2.1	2.1
600	1.2	1.6	1.9	2.0	2.0
650	1.2	1.6	1.8	1.9	2.0
700	1.1	1.5	1.7	1.9	1.9
753	1.1	1.5	1.7	1.8	1.8

