



U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**

**NTSA**  
People Saving People  
[www.nhtsa.dot.gov](http://www.nhtsa.dot.gov)

# Drinking, Riding, and Prevention: A Focus Group Study



## Technical Report Documentation Page

1. Report No. DOT HS 809 490	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle  Drinking, Riding and Prevention: A Focus Group Study		5. Report Date February 2003	
		6. Performing Organization Code	
7. Author(s) Les R. Becker, A. Scott McKnight, Valerie S. Nelkin, and Douglas L. Piper		8. Performing Organization Report No.	
9. Performing Organization Name and Address Pacific Institute for Research and Evaluation Calverton Office Park 11710 Beltsville Drive, Suite 300, Calverton, Maryland 20705		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No. DTNH22-98-D-35079	
12. Sponsoring Agency Name and Address  National Highway Traffic Safety Administration 400 7th Street, SW Washington, DC 20590		13. Type of Report and Period Covered  Final Report	
		14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract  <p>Motorcyclist fatalities accounted for 7 percent of the total traffic fatalities in 2000; yet, motorcycles represent less than 2 percent of all registered vehicles and only 0.4 percent of all vehicle miles traveled. Motorcyclist crash fatalities had been decreasing in the mid-to-late 1990s, until 1998 and 1999 when fatalities increased dramatically. More riders older than 40 years were dying as a result of these crashes and high BAC levels were involved. To identify effective prevention and intervention approaches, 20 motorcycle focus groups-16 Rider Groups and 4 Leadership Groups-were held in five cities or regions across the United States. The findings of these groups indicate that (1) riders often discourage their peers from riding after drinking, but a culturally reinforced respect for rider freedom and individual responsibility set boundaries for peer actions; (2) rider concern for the safety and security of the motorcycle nearly always overshadows concern for individual safety and contributes to drinking and riding; and (3) motorcycle impoundment and court-ordered payment of costs for vehicle storage, alcohol treatment programs, and other costs are considered persuasive countermeasures. The results suggest that future drinking-and-riding prevention efforts should incorporate peer approaches and social norms modeling. Crisis Intervention Techniques may be valuable in preventing already impaired riders from operating their motorcycles.</p>			
17. Key Words  Motorcycle Riding; Motorcycling; Alcohol; Drinking and Riding; Focus Groups; Intervention Strategies; Peer Approaches; Social Norms Modeling		18. Distribution Statement	
19. Security Classif (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages	22. Price





## Executive Summary

### Background and Purpose

Motorcycle crashes contribute significantly to the large number of injuries and fatalities on the roadways. Motorcyclist fatalities accounted for 7 percent of total traffic fatalities in 2000, yet motorcycles were less than 2 percent of all registered vehicles and only .4 percent of all vehicle miles traveled.

Over the past 10 years, the number of alcohol-related fatalities for both passenger car operators and motorcycle operators has fallen; nonetheless, alcohol continues to play a significant role in motorcycle crashes. According to the 2000 *Fatality Analysis Reporting System (FARS)*, motorcycle operators involved in fatal crashes had higher intoxication rates, with a blood alcohol concentration (BAC) of .10 grams per deciliter or greater, than any other type of motor vehicle driver. More than 40 percent of the motorcycle operators who died in single-vehicle crashes in 2000 were intoxicated.

In 1994, the National Highway Traffic Safety Administration (NHTSA) investigated alcohol involvement in motorcycle crashes. The purpose of this 1994 focus group research was to identify prevailing attitudes and potential interventions to reduce drinking and riding among motorcyclists who drink and ride, as well as any similarities and differences between motorcyclists and other vehicle operators who drink and drive.

NHTSA issued two reports on motorcycle fatalities in 2001. The first report showed that motorcyclist fatalities decreased each year from 1993 to 1997, but this trend was reversed with increases in 1998 and 1999. The second report showed that motorcyclist fatalities in single-vehicle crashes had decreased each year from 1990 to 1996, reaching lows in 1996 and 1997. In 1998 and 1999, however, fatalities in single-vehicle motorcycle crashes increased. Among other findings, more riders older than 40 years were dying as a result of these crashes and high BAC levels were involved.

In 2001, NHTSA initiated research to assess motorcyclists' attitudes and beliefs regarding drinking and riding and to obtain information about their ideas of the most effective methods of reducing impaired motorcycle riding and the resulting crashes, injuries, and fatalities. This project differed from the 1994 focus group project in that special emphasis was placed on obtaining riders' opinions of strategies that may be effective in curbing drinking and



riding. NHTSA will use the project's results as input in the development of effective programmatic approaches addressing the issues associated with impaired riding.

## Participant Characteristics

Twenty focus groups composed of members from the motorcycle community were held in five cities or regions across the United States: 16 Rider Groups and 4 Leadership Groups. The cities or regions for the focus groups were chosen on the basis of high rates of alcohol-related motorcycle fatalities according to FARS; a long riding season or large number of riders; and a distribution of cities or regions consistent with those chosen for NHTSA's earlier 1994 focus group study on this topic. A total of 129 riders and 35 leaders participated in the groups spanning fall 2001 through early winter 2001.

### Rider Groups

Recruiters identified potential participants by using a screening instrument that contained questions about riding habits, the use of alcohol, and riding after drinking. Rider Group participant ages ranged from 17 to 66 years. Despite an effort to recruit minority and younger riders, participants primarily were White and older. Almost two-thirds (63 percent) had taken a motorcycle safety course. More than half (55 percent) of the riders indicated they drank a few times per month to a few times per week, and almost half (49 percent) of the riders indicated that they drank at parties, social gatherings, or bars with friends and, thus, potentially might find themselves at risk of drinking and riding. Rider Group participants were split equally between those indicating that they *occasionally* or *seldom* rode after drinking and those indicating they never rode after drinking.

### Leadership Groups

The Leadership Group participants were individuals who provide direction on issues related to motorcycle safety at the community, organizational, state, or national level. About a third of the Leadership Group participants work for state or local governments in administrative roles. Law enforcement participants were typically motorcycle patrol officers. Motorcycle industry leaders included those with safety and public communications roles. Leaders from motorcycle rider groups included state and regional organization officials.



## Focus Group Methods

The groups were conducted in both public and private facilities. All focus groups were recorded with consent of the participants, and transcripts from the tapes were prepared by professional transcribers. The range of topics in the *Rider Moderator's Guide* included situations where motorcyclists drink and ride; reasons for deciding to drink and ride; perceptions of the term "BAC"; BAC and impairment; reduction of drinking and riding among motorcyclists (motorcyclist willingness, effective strategies); and roles of riders, rider groups, and various agencies in addressing impaired riding. The *Leadership Moderator's Guide* emphasized five issues: (1) when riding skills become impaired, (2) what the legal BAC for motorcyclists should be, (3) effective strategies for reducing impaired motorcycling, (4) the appropriate roles for different agencies in addressing impaired motorcycling, and (5) barriers to reducing impaired motorcycling and ways to overcome them.

The 20 focus groups produced several hundred pages of transcripts. We conducted an automated content analysis of the transcripts using a qualitative data analysis software package. Rider and Leadership Groups were analyzed separately. Patterns and themes across groups were noted and illustrative quotes were identified for use in the report. Tabular analysis of participant data was conducted.

## Findings and Recommendations

### Rider Groups

Most motorcycle riders in this group consistently reported that they rode a motorcycle to (1) experience the open road, (2) unwind from life's daily pressures, (3) experience the satisfaction that comes from mastering the operation of powerful machinery, and (4) be a member of an elite group. Riders consistently characterized their strong social affinity for other riders, suggesting a strong sense of community.

Riders expressed a range of riding preferences. Some primarily rode in groups, others rode alone, and some rode both alone and in groups, depending on the circumstances. The majority felt that there was a limit to how big a group ride could be and still operate safely.

Typical drinking-and-riding circumstances and venues reported by riders include biker bars, other bars and public establishments serving alcohol, *poker runs*, national or regional



rallies, and events and club meetings. Poker runs are organized rides on a route consisting of destinations that riders visit to collect a *card for their hand* [written verification of arrival at a particular destination] where riders report that they typically purchase the product or service offered for sale by the establishment.

Most riders are familiar with the term “BAC,” but question its value as an indicator of impairment. Virtually all riders in this study were vehemently opposed to the setting of a lower BAC for riders relative to drivers.

A fundamental belief among riders is that “since drinking riders only hurt themselves” (unlike car drivers), government intervention to discourage drinking and riding is inappropriate. This belief is strongly linked to the riders’ views of freedom and independence.

The riders’ concern for the safety and security of their motorcycles nearly always overshadows concerns for individual safety and contributes to drinking and riding.

Riders often discourage their peers from riding after drinking, but a culturally reinforced respect for rider individuality and freedom, and strong beliefs in “individual responsibility” set boundaries for peer actions. Under certain circumstances, riders will disable impaired peers’ motorcycles to prevent them from riding after drinking.

The riders participating in this study did not consider traditional countermeasures for drinking and riding such as fines and license suspension persuasive. However, motorcycle impoundment and court-ordered payment of costs for vehicle storage, alcohol rehabilitation programs, and other costs were considered persuasive.

### Leadership Groups

The Leadership Groups identified overwhelming legal and political barriers to the concept of a lower legal BAC for riders of motorcycles than for drivers of passenger vehicles.

The groups identified approaches based on social norms models as potentially promising directions for changes in motorcycle rider education programs.

### Other Findings

The results of this study support continued law enforcement organization participation in enforcement, public education, and educational activities. Leadership Group participants



encouraged widespread training of law enforcement personnel in the NHTSA program, “The Detection of DWI Motorcyclists.”

Rider Groups can play an important role in reducing drinking and riding. Activities can include sponsoring alcohol-free rides and lock-ins, changes in formal and informal club practices to discourage or prohibit drinking and riding, and other forms of internal policing where feasible. Umbrella organizations that reach out to individual riders or are considered influential or trend setting should consider changes in sponsorship and publication policies to disassociate motorcycling and alcohol use.

Riders felt that existing rider training programs adequately conveyed a drinking and riding prevention message, but they also felt that there are not enough seats currently available in training courses to accommodate the demand for training.

The responsibility for reduction of drinking and riding weighs heavily on riders. Individual riders can encourage their peers to not drink and ride, refrain from participation in clubs and events that do not discourage drinking and riding, and encourage their clubs and organizations to sponsor lock-ins and alcohol-free events.

The results of the Leadership Groups suggest the need for a renewed emphasis on motorcycle safety within the total complex of highway safety programs. Credibility would probably be enhanced among motorcycle riders if some of these efforts also included motorcycle awareness campaigns aimed at motor vehicle operators.

## **Comparisons With the NHTSA 1994 Study**

### ***Similarities***

Riders in our study were as passionate about motorcycling and the experience of riding as the 1994 focus group participants. In both studies, many riders believed that other motor vehicle operators frequently caused motorcycle crashes, either indirectly through carelessness or directly with presumed forethought and malice.

Riders in both studies believed that individual differences were important in physiological reactions to alcohol.





Both studies indicated that intervention with friends commonly occurs. Confiscating keys and tampering with ignition systems were reported in both studies as means of disabling motorcycles of impaired riders. Riders in both studies were equally reluctant to leave their motorcycles unattended overnight in public parking areas and also reported the use of trucks or vans to transport the motorcycles of impaired riders.

Participants in both studies did not view consequences of riding after drinking such as fines and license suspension seriously.

Focus group participants in both studies recommended that drinking and riding media messages should incorporate specific motorcycle content.

Impoundment, or the total loss of a motorcycle due to damage, drew substantial, animated responses from riders in the current study and are comparable with the reported responses for the 1994 study.

### ***Notable Differences***

As the focus of this study was different from the 1994 study, the sample selection differed. The 1994 study was interested in identifying messages that might deter riders from riding after drinking. As such, the participants were riders who admitted to riding after drinking. This study sought to identify the reasons and decision-making for riders who chose to drink and ride, and for riders who chose not to drink and ride, even though they did drink alcohol. Consequently, the sample in this study consisted of riders who said they did drink alcohol, but some indicated that they rode after drinking while others did not.

Unlike the 1994 study, the results of this study do not suggest that drinking and riding are consistently co-occurring activities. The current study findings suggest intolerance to drinking riders by their riding peers. A noticeable proportion of the riders participating in this study reported that motorcycle club activities are moving closer towards alcohol-free events. They also said that drinking riders, even if not always considered a hazard to themselves, are considered a hazard to other riders.

Our study revealed that organized club riders and road captains said followup trucks that typically carry additional group gear and supplies and transport motorcycles experiencing mechanical failure during a ride, are also used to transport the motorcycles of riders who



become a hazard to themselves and/or to the group due to drinking alcohol while on a group ride.

Road Captains reported that drinking riders are often asked to refrain from further drinking, and if they do not comply, they are asked immediately to leave a group ride.

Riders in at least one region of the country had experienced the substantial economic and other disruptive impacts of DUI/DWI (driving under the influence/driving while intoxicated) convictions and expressed strong desires to avoid repeating this experience. These impacts were cited as consequences to avoid and reasons not to drink and ride.

## Recommendations

The results of the Rider Groups and Leadership Groups suggest that the following approaches may be promising for reducing impaired motorcycle riding: (1) enhancing peer activities; (2) incorporating social norm models into drinking-and-riding awareness programs; (3) offering responsible beverage service and expanded crisis intervention training to servers, event staff, and motorcycle organization leaders, members, and rank and file riders; (4) exploring the feasibility of encouraging motorcycle impoundment as a countermeasure; and (5) expanding the use of media messages specifically crafted for motorcyclists and motorcyclist subcultures.

### ***Enhancing Peer Activities***

The strong social fabric of the motorcycle riding community and the ongoing informal peer-based activities to reduce drinking and riding suggest that building upon these existing peer-based activities may be an effective approach to reduce drinking and riding. Developing and/or modifying existing peer intervention curricula and offering seminars to leaders of nationally recognized motorcycle organizations in a cost-effective, train-the-trainer format could accomplish this. Also, promoting the dissemination of this training to local motorcycle clubs would be advisable.

### ***Social Norms Models***

The results of the Leadership Groups indicate that social norms models should be explored for application to motorcycling, specifically drinking and riding. Our findings suggest that this may be promising because (1) riders report that their groups already discourage drinking



and riding; (2) new and independent riders may harbor misconceptions of rider views towards drinking and riding; and (3) the social norms model is already in use on college campuses and in some state-based youth alcohol and driving programs. Further, social norms modeling also may serve to reinforce ongoing and future peer-based interventions.

### ***Intervention Techniques***

The Rider Groups suggested awareness training in techniques for intervention with intoxicated riders for servers and event staff. Crisis Intervention Techniques have been known and used for at least 20 years. NHTSA might consider exploring the applicability and portability of these techniques to servers and event staff and also to motorcycle organization leaders and members.

### ***Encouraging Impoundment Laws***

Our findings suggest that impoundment may be an effective countermeasure to drinking and riding. NHTSA might consider studying vehicle impoundment and exploring the feasibility of encouraging its expansion in circumstances of drinking and riding.

### ***Target the Message***

Our findings suggest that drinking-and-riding media messages should incorporate specific motorcycle content. In addition, messages should target specific rider subcultures (e.g., sport bike riders as compared to cruisers).



## Table of Contents

Executive Summary .....	i
Background and Purpose .....	i
Participant Characteristics .....	ii
Rider Groups .....	ii
Leadership Groups .....	ii
Focus Group Methods .....	iii
Findings and Recommendations .....	iii
Rider Groups .....	iii
Leadership Groups .....	iv
Other Findings .....	iv
Recommendations .....	vii
 I. Introduction .....	 1
II. Purpose of the Focus Groups .....	2
III. Methods .....	2
A. Focus Group Logistics .....	2
1. Locations and Group Types .....	2
2. Recruiting .....	4
3. Moderator's Guides .....	5
4. Group Procedures .....	6
B. Data Analysis .....	6
C. Strengths and Limitations .....	6
1. Strengths .....	6
2. Limitations .....	7
IV. Findings .....	7
A. Profile of Participants .....	7
1. Rider Groups .....	7
B. Rider Views .....	12
1. Riding Habits and Attitudes/Reasons for Riding .....	12
2. Group Riding vs. Riding Alone .....	13
3. Drinking Behavior and Attitudes Regarding Drinking and Riding .....	15
C. Rider Knowledge .....	19
1. BAC .....	19



D.	Rider and Organizational Views .....	20
1.	Different BACs for Motorcycle Riders and Drivers of Automobiles? .....	20
2.	Willingness to Reduce Drinking and Riding .....	21
3.	Acceptable Strategies to Reduce Drinking and Riding .....	22
4.	Riders' Views on Countermeasures and Strategies .....	28
5.	Peer Approaches .....	30
6.	Values Important to Riders: Their Motorcycles and Family .....	31
7.	Organizational Leadership Views .....	33
8.	Leadership Groups' Views on the Roles of Relevant Groups and Organizations .....	37
E.	Intervention Ballot Findings .....	40
V.	Overall Themes and Summary of Findings .....	43
A.	Rider Groups .....	43
B.	Leadership Groups .....	44
C.	Comparisons With the 1994 NHTSA Study .....	45
1.	Similarities .....	45
2.	Notable Differences .....	46
VI.	Conclusions and Recommendations .....	47
A.	Answers to Study Questions .....	47
B.	Strategies to Reduce Drinking and Riding .....	50
1.	Enhancing Peer Activities .....	50
2.	Social Norms Models .....	51
3.	Intervention Techniques .....	51
4.	Encouraging Motorcycle Impoundment .....	51
5.	Target the Message .....	52
C.	Other Recommendations .....	52
VII.	References .....	54



## Appendices

- A. Motorcycle Focus Group Telephone Screening Form
- B. Moderator's Guide for Motorcycle Leadership Focus Group
- C. Moderator's Guide for Motorcycle Rider Focus Group



## List of Tables

Table 1. Focus Group Locations and Types .....	3
Table 2. Participants by City .....	8
Table 3. Participants by Age Group .....	8
Table 4. Participants by Ethnicity .....	8
Table 5. Drinking Frequency .....	9
Table 6. Drinking Patterns .....	9
Table 7. Frequency of Riding After Drinking .....	10
Table 8. Perceived Likelihood of Apprehension .....	10
Table 9. Belief That Alcohol Negatively Affects Driving .....	11
Table 10. Drinking is a Safety Problem for Riders .....	11
Table 11. Leadership Groups – Background .....	12
Table 12. Leadership Groups – Riding .....	12
Table 13. Results of the “Alternatives” Balloting. ....	41
Table 14. Recoded Results of “Other” from the Alternatives Ballot. ....	41
Table 15. Results of the “Countermeasures” Balloting. ....	41
Table 16. Strategies for Reducing Drinking and Riding .....	52



## I. Introduction

Motorcycle crashes contribute significantly to the large number of injuries and fatalities on the roadways. Motorcyclist fatalities accounted for 7 percent of total traffic fatalities in 2000; yet, motorcycles were less than 2 percent of all registered vehicles and only 0.4 percent of all vehicle miles traveled.

Alcohol continues to play a significant role in motorcycle crashes. Over the past 10 years, the number of alcohol-related fatalities for both passenger car operators and motorcycle operators has fallen; however, motorcycle operators continue to have a higher involvement. According to the 2000 *Fatality Analysis Reporting System (FARS)*, motorcycle operators involved in fatal crashes had higher intoxication rates, with a blood alcohol concentration (BAC) of .10 grams per deciliter or greater, than any other type of motor vehicle drivers. More than 40 percent of the motorcycle operators who died in single-vehicle crashes were intoxicated.

In 1994, the National Highway Traffic Safety Administration (NHTSA) investigated why alcohol involvement in motorcycle crashes remained high, even though the changes in drinking-and-driving laws apply equally to all motor vehicle operators and public information and education campaigns have increased the public's awareness of the dangers of driving intoxicated or impaired. The agency previously had conducted similar research with operators of four-wheeled vehicles but had not included motorcyclists in the research. The purpose of the 1994 research was to identify prevailing attitudes among motorcyclists who drink and ride, as well as any similarities and differences between motorcyclists and other vehicle operators who drink and drive. This would enable NHTSA to develop more effective public information materials.

NHTSA issued two reports in 2001. The first report (Shankar, 2001a) revealed motorcyclist fatalities decreased each year from 1993 to 1997, reaching a historic low of 2,116 in 1997. In the late 1990s, however, this trend was reversed with increases to 2,294 (8.4 percent) in 1998 and to 2,472 (7.8 percent) in 1999. The overall increase in motorcyclist fatalities from 1997 to 1999 was 356 (16.8 percent). This reversal prompted an assessment of possible explanations for the surge in fatalities in recent years.

The second report (Shankar, 2001b) revealed that more than 38,000 motorcyclists died in single-vehicle motorcycle crashes between 1975 and 1999. Motorcyclist fatalities in single-





vehicle crashes had decreased each year from 1990 to 1996, reaching a low of 937 in both 1996 and 1997. However, in the late 1990s, the fatalities in single-vehicle motorcycle crashes increased to 1,042 (11.2 percent) in 1998 and to 1,140 (9.4 percent) in 1999. The overall increase in motorcyclist fatalities from single-vehicle crashes from 1997 to 1999 was 203 (21.7 percent). Among other findings, more riders older than 40 years were dying because of these crashes and the high BAC levels that were involved.

## II. Purpose of the Focus Groups

The objective of this project was to assess motorcyclists' attitudes and beliefs regarding drinking and riding and to gain input on their ideas of the most effective methods of reducing impaired motorcycle riding and resulting crashes, injuries, and fatalities. This project differed from the 1994 focus group project because it sought input from riders who drank and rode and those who drank but did not ride in order to gain insight into the factors that led to each decision. Input from riders who did not ride after drinking could be used to develop intervention strategies to reduce impaired riding. NHTSA contracted with the Pacific Institute for Research and Evaluation (PIRE) to conduct this study. Twenty focus groups were conducted in five cities or regions. NHTSA will use the project's findings to identify effective programmatic approaches to address impaired riding.

## III. Methods

### A. Focus Group Logistics

#### 1. Locations and Group Types

Twenty motorcycle focus groups were held in five cities or regions across the United States: 16 Rider Groups and 4 Leadership Groups. The cities or regions from which the focus group participants were chosen in consultation with NHTSA and based on one or more of the following considerations:

- Areas with high rates of alcohol-related motorcycle fatalities according to FARS
- Areas with a long riding season or a large number of riders
- A distribution of cities/regions consistent with those chosen for NHTSA's 1994 focus group study on this topic



Table 1 displays the distribution of focus groups by city/region and type.

**Table 1. Focus Group Locations and Types**

City/Region	Group	Types &	Number
Milwaukee, WI	MC	riders	(3)
	MC	leadership	(1)
Metropolitan Washington, DC, area	MC	riders	(5)
	MC	leadership	(0)
San Diego, CA	MC	riders	(3)
	MC	leadership	(1)
Jacksonville, FL	MC	riders	(3)
	MC	leadership	(1)
Denver, CO	MC	riders	(2)
	MC	leadership	(1)

A total of 129 riders and 35 leaders participated in the groups spanning fall 2001 through early winter 2002. The groups were conducted in public and private facilities as follows:

- Milwaukee in a conference facility of a large motorcycle manufacturer (Rider and Leadership Groups)
- Metropolitan Washington, DC, area at PIRE offices and at a local motorcycle dealer (Rider Group)
- San Diego in a restaurant meeting room (Rider Group) and at the Motorcycle Safety Foundation headquarters in Irvine, California (Leadership Group)
- Jacksonville in a public library meeting room (Rider and Leadership Groups)
- Denver in a private office, after business hours (Rider Group) and in a State transportation office (Leadership Group)

All focus groups were recorded by a central microphone with consent of the participants, and transcripts from the tapes were prepared by professional transcriptionists.

#### **a. Rider Groups**

Recruiters identified potential participants by using a screening instrument (see Appendix A) that contained questions about riding habits, the use of alcohol, and riding after drinking. Rider Group participants' ages ranged from 17 to 66 years. Despite an effort to recruit minority and younger riders, participants primarily were White and older. Almost two-thirds (63 percent) had taken a motorcycle safety course. More than half (55 percent) of the riders indicated they drank a few times per month to a few times per week, and almost half (49 percent) of the riders indicated that they drank at parties, social gatherings, or bars



with friends and, thus, potentially might find themselves at risk of drinking and riding. Rider Group participants were split equally between those indicating that they *occasionally* or *seldom* rode after drinking and those indicating they never rode after drinking.

#### **b. Leadership Groups**

The Leadership Group participants were individuals who provide direction on issues related to motorcycle safety at the community, organizational, state, or national level. About a third of the Leadership Group participants work for state or local governments in administrative roles. Law enforcement participants were typically motorcycle patrol officers. Motorcycle industry leaders included those with safety and public communications roles. Leaders from motorcycle rider groups included state and regional organization officials.

This group was defined as people in a position to affect drinking and riding in some way and included but was not limited to:

- State and local traffic safety, alcohol program, and motorcycle safety program officials
- Motorcycle safety researchers
- Motorcycle manufacturing industry representatives
- Motorcycle riders association officials
- Law enforcement
- Motorcycle safety instructors

#### **2. Recruiting**

Local site coordinators were recruited for Milwaukee, San Diego, Denver, and Jacksonville. Site coordinators generally were chosen based on their knowledge of motorcycling and connections to the local rider community. All site coordinators were either already known to PIRE or recommended by local PIRE contacts. PIRE staff coordinated local arrangements for the Metropolitan Washington, DC, area focus groups. The local site coordinators recruited participants for the Rider Groups. Methods of advertising included the following:

- Advertisements in local newspapers, including major city and college newspapers
- Flyers at local universities, motorcycle shops, and other places frequented by riders
- Personal visits, telephone calls, and e-mail messages to representatives of local rider clubs



- Advertisements on motorcyclist-oriented Internet electronic mail lists and bulletin boards
- Coordination with local military motorcycle training officials who had access to large numbers of riders of varying ages and experience levels
- Word of mouth from riders who already had been recruited

Using the PIRE-developed screening instrument (see Appendix A), site coordinators collected information concerning riders' demographics and drinking-and-riding history. Only male riders were chosen for inclusion in the Rider Groups. Female motorcycle riders are virtually absent from the FARS cases, which indicates that female riders are not contributing substantially to the drinking-and-riding problem. To include male riders from all possible age groups, experience levels, ethnic backgrounds and rider types (e.g., weekend touring vs. daily commuting), riders in groups that might be potentially underrepresented in the study were given priority for the focus groups.

Participants for the Leadership Groups were recruited centrally from the PIRE office, with the assistance of NHTSA or PIRE contacts in each of the cities or regions.

### 3. Moderator's Guides

Two Moderator's Guides were developed: one for the Leadership Groups (Appendix B) and one for the Rider Groups (Appendix C). The range of topics in the *Rider Moderator's Guide* included, but was not limited to, (1) situations where motorcyclists drink and ride; (2) reasons motorcyclists decide to drink and ride; (3) perceptions of the term "BAC"; (4) BAC and impairment; (5) reduction of drinking and riding among motorcyclists (motorcyclist willingness, effective strategies); and (6) roles of riders, rider groups, and various agencies in addressing impaired riding.

The *Leadership Moderator's Guide* (Appendix B) emphasized five issues: (1) when riding skills become impaired, (2) what the legal BAC for motorcyclists should be, (3) effective strategies for reducing impaired motorcycling, (4) the appropriate roles for different agencies in addressing impaired motorcycling, and (5) barriers to reducing impaired motorcycling and ways to overcome them.

PIRE staff pilot tested the *Rider Moderator's Guide* (Appendix C) at a focus group conducted with the staff at a motorcycle dealership in the Washington, DC area. Some adjustments were made to the guide after this dry run and, again, in consultation with NHTSA after the first Rider Group was conducted in Milwaukee, Wisconsin. The overall content did not change substantially.



#### 4. Group Procedures

As members of the focus groups gathered, they completed a participant information form covering demographics and drinking-and-riding habits. The focus groups ranged from 1½ to 2 hours. A second team member took notes and assisted the moderator with forms, refreshments, and stipends. Rider Group participants also completed an Interventions and Countermeasures Ballot at the close of the focus group meeting.

Riders were paid \$50 in cash at the end of the focus group meeting. Soft drinks and other refreshments were also provided. The stipend and food were both advertised as part of the recruitment effort. Leadership Group participants, many of whom were government employees, did not receive honoraria.

#### B. Data Analysis

The 20 focus groups produced several hundred pages of transcripts. Overall themes were identified after consultation with project staff. We conducted an automated content analysis of the transcripts, using QSR NUD·IST (QSR International Pty Ltd.), a qualitative data analysis software package that allows researchers to organize voluminous transcribed dialogue effectively and efficiently and characterize inherent themes (Loxley, 2001). Rider Groups and Leadership Groups were analyzed separately. Patterns and themes across groups were noted and illustrative quotes were identified for use in the report. QSR NUD·IST allowed comprehensive examination of all transcripts and facilitated consistent coding by the research team. Tabular analysis of data from the participant information forms and the Interventions and Countermeasure Ballots was conducted using SPSS for Windows, Version 10.

#### C. Strengths and Limitations

##### 1. Strengths

Focus group research is a qualitative research technique used to gain insight and understanding into the nature of a problem. This technique allows researchers to interact directly with respondents and allows opportunities for clarification, followup questioning and probing of responses. The researchers also can observe nonverbal behavior that may supplement the verbal responses. Further, the synergistic effect of the group setting may



result in the production of data or ideas that might not have been uncovered in individual interviews.

## 2. Limitations

Focus group findings, however, are not survey results. Focus groups allow for insight into issues under study but not for statistical inference. Hence, our results cannot be generalized to all motorcyclists. This study is limited to five cities/regions across the United States. Although expansive from the perspective of focus group research, it does not necessarily provide a national perspective. Also, as is typical in any focus group study, the participants included in this study do not statistically represent the motorcycle-riding population in the United States. As noted earlier, the focus groups included only male riders because of the very small number of FARS-identified motorcyclist fatalities involving women. However, women riders might provide a worthwhile perspective on this issue for possible exploration in future studies.

## IV. Findings

### A. Profile of Participants

#### 1. Rider Groups

Because local coordinators were typically better connected with one specific Rider Group network, the groups tended to be homogeneous with respect to type of motorcycle. Thus, many groups consisted of mostly riders of *cruisers* (i.e., motorcycles preferred for appearance, style, sound, and comfort); other groups were dominated by riders of *sports bikes* (i.e., motorcycles preferred for acceleration, top-speed, braking, and cornering).

Table 2 displays the breakdown by city of the 129 male motorcyclists participating in this study.

**Table 2. Participants by City**

City	Number of Participants
Denver	16
Jacksonville	21
Washington, DC Metro	42
Milwaukee	27
San Diego	23
Total	129

Despite an effort to recruit minority and younger riders, participants tended to be White and older. However, fatally injured motorcyclists also are predominantly White and older. Participant ages ranged from 17 to 66 years. Mean rider age was 42.3 years. Tables 3 and 4 show breakdowns of riders by age group and ethnicity.

**Table 3. Participants by Age Group**

Age Group (Yrs.)	Number of Participants
≤25	7
26-35	25
36-45	42
46-55	38
≥56	15
Missing	2
Total	129

**Table 4. Participants by Ethnicity**

Ethnicity	Percentage of Participants
African American/Black	2.3
Hispanic/Latino	3.9
Asian/Pacific Islander	2.3
White	84.5
Other	0.7
Declined	6.3
Total	100



### a. Participant Beliefs and Behaviors

Participants were asked several questions regarding their motorcycling experience, beliefs, and behaviors. Sixty-three percent of participants said they had taken a motorcycle safety course. Participants were asked how often they drank alcohol. Only 8 percent of the riders indicated that they drank every day, but 55 percent of the riders indicated they drank a few times per month to a few times per week. Nearly all respondents answering *never* identified themselves during the groups as recovering alcoholics and were recruited based on past experience with drinking and riding. Responses are shown in Table 5.

**Table 5. Drinking Frequency**

Response	Percentage of Participants
Never	13
Seldom	24
A few times a month	32
A few times a week	23
Almost every day	8
Total	100

Participants were asked to choose one phrase that best described when and where they drink. Almost half of the riders (49 percent) indicated that they drank at parties, social gatherings, or at bars with friends, and thus potentially might find themselves at risk of drinking and riding. An additional 23 percent indicated that they drank at home with family and friends. The results are shown in Table 6.

**Table 6. Drinking Patternsntage of Participants**

Response	Percentage of Participants
Only at parties and social gatherings	30
Only drink with meals	8
Drink at bars with friends	19
Drink at home with family and friends	23
Drink alone, at home, or in bars	6
Other	14
Total	100

Of those answering *other*, most answered that they rarely or never drank. The remaining respondents in this category had indicated more than one choice.





Participants were asked how often they rode within 2 hours of consuming one or more alcoholic drinks. Rider Groups were split between those indicating that they *occasionally* or *seldom* rode after drinking and those indicating *never*. Five percent of the riders indicated that they rode *very often* after drinking. Responses are shown in Table 7.

**Table 7. Frequency of Riding After Drinking**

Response	Percentage of Participants
Very often	5
Occasionally	24
Seldom	30
Never	41
Total	100

Participants were asked about their belief in the likelihood of apprehension if they rode with a BAC higher than the State's legal limit. Fifty-eight percent replied *somewhat likely* or *very likely*. Responses are shown in Table 8.

**Table 8. Perceived Likelihood of Apprehension**

Response	Percentage of Participants
Very likely	72
Somewhat likely	19
Not likely or unlikely	2
Somewhat unlikely	4
Very unlikely	1
Total	100

Participants were also asked how strongly they believe alcohol negatively affects their ability to ride safely. Ninety-one percent of the riders indicated *very likely* or *somewhat likely*. Only 8 percent thought it was *unlikely*. Responses are shown in Table 9.

**Table 9. Belief That Alcohol Negatively Affects Riding**

Response	Percentage of Participants
Very likely	20
Somewhat likely	38
Not likely or unlikely	19
Somewhat unlikely	15
Very unlikely	7
Missing	1
Total	100

Participants were asked if they agreed that drinking is a significant traffic safety problem for motorcycle riders. Seventy-five percent expressed *agreement* or *strong agreement*. Only 9 percent of riders indicated they *disagreed*. Responses are shown in Table 10.

**Table 10. Drinking is a Safety Problem for Riders**

Response	Percentage of Riders
Strongly agree	41
Agree	34
Neither agree or disagree	15
Disagree	7
Strongly disagree	2
Missing	1
Total	100

#### **b. Leadership Groups**

The composition of the Leadership Groups by background is shown in Table 11. About a third of the leaders worked for state or local government in administrative roles. Law enforcement personnel who participated in the focus groups were typically motorcycle patrol officers. Motorcycle industry leaders included those with safety and public communications roles. Leaders from Rider Groups included state and regional organization officials. Although participants were asked to check only one response to the question of professional background, they were often associated with more than one area of motorcycle safety (e.g., State motorcycle program officials with a motorcycle instruction and law enforcement background). Motorcycle dealers, publishers of motorcycle-related magazines, and members of the hospitality industry from establishments' known to have a large motorcyclist clientele were also contacted. Unfortunately, those individuals, while interested, were unable to attend.

**Table 11. Leadership Groups – Background**

Response	Percentage of Leaders
Government official	34
Law enforcement	23
Motorcycle safety instructor	14
Motorcycle industry employee	20
Rider Groups	6
Other	3
Total	100

A total of 35 people participated in the Leadership Groups. It was not considered essential for Leadership Group participants to be motorcyclists, although approximately two-thirds were currently riding motorcycles. More than half (56 percent) indicated that they rode two to three times a week or every day. Their responses are shown in Table 12.

**Table 12. Leadership Groups – Riding**

Response	Percentage of Responses
Once a week	11
2-3 times a week	26
Every day	30
Not currently riding or just started	15
Never rode regularly	18
Total	100

## B. Rider Views

### 1. Riding Habits and Attitudes/Reasons for Riding

Across the focus groups, riders expressed similar reasons for riding a motorcycle. Typically, riders talked about experiencing the freedom of the open road and the benefits of an opportunity to unwind from life's daily pressures. Others stated or implied that if one had to ask, one could not possibly understand.

*"I guess the reason I like to ride is because as you see in all of the magazines and stuff about open road and open air, and everything that goes with it."*

*"You get out there, and you have to be thinking about what you're doing once you're on that bike. And then as you're riding, yes, you crack that throttle, and that stress is just blowing right out in the breeze."*

*"A friend of mine probably put it best, the most perfect form of transportation ever devised by man or God. I ride because I can't imagine not riding."*



Many riders discussed the satisfaction derived from the challenge of mastering the operation of a motorcycle.

*“A bike is more challenging to operate properly than a car. I can’t afford a pilot’s license, so a bike’s it.”*

Others stated that riding a motorcycle was the focus of their social activities.

*“I mean, I feel the group that I’m with, there are 82 members, and we have social events throughout the year. And they’re friends, is part of it, it’s a social event, more or less.”*

*“I guess the second part is just, you know, there’s a large group of us that are kind of in this together and I kind of enjoy going to the rallies and stuff, and being with people who I’ve got a common interest with. That’s about it.”*

*“You get the personal freedom, the camaraderie, and do a lot of traveling...If you run into another motorcycle that’s by the wayside, you’ve got a conversation. You’ve got stories to tell, and then you’ve got a friend for life.”*

Riders consistently expressed a sense of membership and commitment to a larger motorcycling community. They discussed a concern for and willingness to aid other riders as compared to drivers of automobiles.

*“But, I mean, there’s a camaraderie with motorcyclists. You know, you see a motorcycle on the side of the road as you’re passing, you stop. You know, you don’t keep [on going...] – it’s not like in a car where you just blow by them and nobody cares.”*

*“Yeah, I’ve stopped on the freeway just to wait for another, you know, if somebody breaks down or something, others will move forward or whatever and wait at the next exit. I’ll pull over next to the exit and people will actually stop, ‘You all right?’ Yep.”*

## 2. Group Riding vs. Riding Alone

### a. Group Riding

Riders in our focus groups expressed a range of riding preferences. Some primarily rode in groups, others rode alone, and some rode both alone and in groups depending on the circumstances. Group riders described regular riding with a club, others described riding as part of a large event, and others described riding with informal groups with rotating membership.



*“Yeah, I ride with a club. We have a monthly ride, and I find that in between that I’ll end up calling somebody, and we’ll get together and go out to ride.”*

*“But I kind of like riding in a group... And it’s really amazing. I did the Ride for Kids a couple weeks ago. There were 785 bikes, and it was just fascinating to be in, to look forward and see nothing but taillights on, and look behind you and see nothing but solo headlights. It was fantastic.”*

*“...But on the weekends, if I go riding, I’ve got a group of, there’s about 12 of us that mix and match on any given weekend. It could be 12, could be two, could be three...”*

However, some riders had reservations about the size of their regular riding group.

*“Well, I ride with the Honda Sport Touring Association a fair amount. And I like riding in groups to a degree. When [group size] start[s] to get too big, then they get out of control. Less than ten is usually a manageable size group. You start getting into 20 bikes and you spread out pretty far and it’s hard to tell where the last bike is and, you know, the various skill levels.”*

*“I ride for fun with people, but I try to limit the number of people that I’m with to no more than four or five at the max. Because when I do ride with a large group, it’s very chaotic...I don’t even know if they’ve been drinking or not, but...a motorcycle is very fast, and it’s dangerous without even drinking. And when you have 20 people in a group who have 1000 cc’s or more, that’s a very dangerous situation to be in. So, I like to have a small group...”*

Road captains/ride captains (road captains used in remainder of report) are responsible for group safety. Riders reported that group members generally respected the decisions of the road captains.

*“Our chapter road captains talk about how we look down on drinking and that if you’re going to drink, you know, don’t do it in excess. If you do it in excess, you know, we’re going to call you a cab, and we’re going to make arrangements to get your bike either picked up or brought back to your house.”*

## **b. Riding Alone**

Lone riders either rode alone to and from work or rode recreationally alone by preference. Some riders stated that other riders were not as committed to riding as themselves, and thus, they preferred to ride alone to enjoy motorcycling in as pure a form as possible.

*“Almost exclusively alone. It fits in with, I don’t know, my loner type attitude. I think a lot of people who love bikes, it’s to be alone, to get away from everyday situations and so forth. It’s the freedom of being alone.”*



### 3. Drinking Behavior and Attitudes Regarding Drinking and Riding

#### a. Drinking Behavior

Most focus group participants acknowledged only occasional or social drinking, which is consistent with the data collected through the participant information forms.

*“Very little. Maybe a Margarita twice a year or something like that.”*

A minority of riders indicated that they drank one or more times a week.

*“I usually have one or two when I get home from work.”*

#### b. Drinking-and-Riding Attitudes

##### (1) Riding and Impairment

Questions about drinking and riding a motorcycle typically elicited consistently strong negative responses. But, a few riders admitted to drinking and riding, typically qualified by “not as much as I used to drink” and “I know my limit.” Commonly, riders acknowledged the relative complexity of operating a motorcycle compared to driving a car and the need for maximum alertness and concentration. Interestingly, even the few participants who were less critical of drinking and riding expressed a consistent concern for drinking and riding, but tempered it with their experience or above-average riding ability.

*“You’re impaired after one drink. And although it may be slight, there’s some impairment there, and the first thing that goes is your judgment. So you think you can, you know, go out and get on the bike and ride, and in reality, you may not be capable of doing it.”*

*“My rule of thumb on my bike is, I’ll have one beer, max, because I feel confident I can ride. You hear maybe two beers an hour on a bike or whatever, but I don’t even go there, I cut that in half.”*

##### (2) “I Know My Limit”

Though few riders stated that they drank and rode, those who did almost always qualified their remarks, either by indicating that they now drank less alcohol than they had in the past or that they carefully monitored their alcohol intake.



*“That’s why, when I go out, two is the limit. If I’m going to stay there any longer, it’s either water or a Coke afterwards.”*

*“If I go to a biker event, I will drink, but I will limit myself. I mean, I just know, at our age, you just know already that you’re good for a beer maybe an hour if you’re going to ride again.”*

At least one rider indicated that self-imposed limits to drinking alcohol did not always work as planned.

*“I don’t know how many of them really are disciplined enough that they really stick to that. But personally, what I’ve seen, the majority don’t really stick to that...they might say, ‘Well, two’s my limit,’ and the next thing you know...I’ve seen them get four.”*

### c. Drinking-and-Riding Circumstances: Where and Who?

#### (1) *Where?*

Most rider-reported accounts of drinking and riding included the following settings: (1) biker bars (rider-friendly bars) that serve as social focal points where drinking ultimately occurs; (2) drinking at various other bars and public establishments; (3) drinking that occurs during poker runs; (4) drinking that occurs at large national or regional motorcycle rallies or events; and (5) club meetings.

#### Biker Bars

Biker bars are establishments that either cater specifically to the riding community or over time have been adopted by riders as their enclaves. Some offer special features that are attractive to riders, as described in the following quote:

*“There’s a place that I used to live, just up the street from [name of bar], on Route \_\_, just south of [city], ... you can ride your bike up to the bar, [and] sit on the saddle with an open drink.”*

#### Other Bars and Public Establishments

It is clear from the Rider Groups that bars in general are traditional meeting places and rendezvous points for riders. It seems that for some riders, these establishments serve as convenient meeting places and that the availability of alcoholic beverages is truly secondary. However, for others, the drinking of alcohol is a focal event.



*"I used to hang with guys, and Friday night we'd go bar-hopping on the bikes. Nobody held a gun to my head and said I had to drink. I didn't have to drink, but there were guys that had a drink at each bar, or two drinks at each bar, or we'd go to a bar and just sit there all night and then go home."*

### Club Meetings

Motorcycle club meetings can occur at private venues or at public bars or restaurants. Club meetings are more of a context and activity, rather than a venue.

*"When I have a club meeting, there are a couple guys in the club that really like to pound down a few, and they always ride up to the meeting. And I always feel uncomfortable watching them drink."*

### Poker Runs

Riders in our groups described poker runs as organized rides on a route consisting of destinations that riders visit to collect a *card for their hand* (written verification of arrival at a particular destination). They typically purchase products (alcoholic or nonalcoholic) or services offered for sale by each establishment on the route.<sup>1</sup>

Traditionally, according to the riders in our groups, poker runs consist of circuits of bars, and riders may drink one or more alcoholic beverages at each stop. They stated that considerable drinking can occur under these circumstances. Of all the drinking-and-riding circumstances described by riders, these discussions were the most animated. It seems clear that riders in our groups believe that much of the organized group drinking-and-riding centers on this type of activity.

*"You wonder how anybody's getting killed with all these responsible bikers, huh? I was on a poker run Saturday, and I can tell you that at 11 in the morning, people are having their Bloody Mary's, and you're doing 140 miles, and there are six stops, so those guys are having six drinks in 3 hours. So it gets, probably towards the end, too much. You know, if you aren't drunk, you're at the verge of being drunk."*

*"One of the things where I see it a lot is on the poker runs. When you do the poker runs, a lot of the stops are usually at bars, and these guys, you know, they go around and each stop they make, they drink a couple of beers. And by the time they get to the end of the rally that lasts about 2 hours, and they've had about 10 beers and it's like, okay, in 2 hours, 10 beers?"*

<sup>1</sup>Poker runs typically are club-sponsored fundraising events. The proceeds from registration fees, minus event costs, are generally donated to charity.





Some riders offered a slightly more sympathetic view of poker runs, emphasizing that the purchase of alcohol beverages was an unintentional, untoward consequence of the venues chosen for the route. But, the following excerpt provides insight into some rider perceptions of acceptable, nonintoxicating levels of alcohol consumption.

*"Let's put it this way, on any of our rides, except for the poker run, there is no time for alcohol except maybe after you get to the destination...you expect everybody to purchase something;...it's a benefit of the person that's donating the place for the poker run. ...You've got five stops in 100 miles, you're looking at 2½ hours, so even statistically, you should not be intoxicated if you only have one beer at each place. Theoretically, I'm talking about. But the intention of the poker run is not to get the person intoxicated. The poker run, all poker runs, whether they be motorcycles, snowmobiles, or whatever, involve – in the Midwest anyway – they involve bars. You didn't go to the baker shop or a hamburger [stand]... We don't go to five restaurants. Who's going to eat five hamburgers in 2 hours, and then have a meal afterwards."*

Finally, some riders mentioned poker runs with stops at establishments that did not serve alcohol, but these accounts were less common than those equating poker run checkpoints with bars.

*"They're not at bars or anything, you're just stopping to draw a card, that's all you're doing."*

*"We have an ice cream run, and Sunday we'll have a brunch ride that will be nonalcoholic, except for the beginning and the end. If there's any stops in between, it will be a nonalcoholic stop."*

### Rallies and Events

National and regional motorcycle rallies and events have gained notoriety for considerable levels of drinking and riding. Riders described this activity as inevitable due to the festive atmosphere of these events and the universal opportunities for the purchase of alcohol. Although there was some police presence on roadways leading to and from these events, apparently event staff did little to intervene with obviously impaired riders or to prevent riders from becoming impaired in the first place. Also, riders in our groups indicated that these events drew inexperienced riders and that alcohol-induced impairment exacerbated the problems associated with this inexperience.

*"I think another big situation, since we're talking about bikes, with my experience with outings with bikes, it seems like all the big shindigs, you know, like Daytona, Myrtle Beach, everything is revolved around a damn bar."*



## (2) Who?

In many of the groups, most of the riders rode similar motorcycles, such as cruisers or sports bikes. Though unintentional, this feature produced interesting findings on the question of “Who was drinking and riding?” Consistently, cruiser groups identified sports bike riders as the ones who were principally responsible for drinking and riding.

*“...I live in [city] and I commonly go down and [you can see] the sports bike riders down there...helmet on the table, beer in hand, and I see that on a daily basis.”*

Sports bike riders, in turn, spoke of riders of cruisers as principally responsible for drinking and riding.

*“You know, like the cruisers, the Harley guys,...go to the bars with the beer and all that.”*

In focus groups where the number of sports bike and cruiser riders was approximately equal, a third response was noted.

*“Younger riders... Yeah. Kids that don’t know what’s best.”*

In addition, local club leaders believe that inexperienced and unaffiliated riders account for many alcohol-related fatalities.

*“The weekend warriors that get on a bike and do 500 miles a year and only come out for the rallies when there is drinking. And they drink like they normally drink when they’re in the car, but now they’re on the bike, and they’re not accustomed to riding the bike, and that’s where the accidents come in, because they’re not acclimated to the bike as they are to the car. You know, they’ve been driving the car since they were 16; they’ve been driving the bike for the last 2 years and only drove 500 miles a year, they’re not going to be one with the bike like you would be with a car.”*

*“Where you’re talking about single riders having most of the accidents, these are people that aren’t involved in these groups and haven’t had the awareness taught to them. They haven’t had the constant reminders of what can happen, and I think that leads to it.”*

## C. Rider Knowledge

### 1. BAC

Most participants readily recognized the term “BAC” as an abbreviation for “blood alcohol content” or “blood alcohol concentration.”

*“I would say it’s a scientific term to mean the amount of alcohol in your blood.”*



Some participants talked about a relationship between BAC and impairment. Most participants indicated that other factors such as tolerance to alcohol and riding ability mediated the relationship between BAC and impairment. Discussions of BAC and impairment were generally more animated than other parts of most focus groups. BAC was typically characterized as only relevant to riders as defendants in legal proceedings. Some participants discussed the arbitrary nature of legal designations of impairment based on BAC levels.

*"It's not impairment level. A good, trained drunk can still look like quite normal. Whereas a person who doesn't drink very often, two or three drinks might just knock 'em flat."*

*"Well, if you talk like, you know, .08 percent BAC, not everybody is impaired the same amount at that point. It's just an arbitrary line in the sand."*

#### D. Rider and Organizational Views

##### 1. Different BACs for Motorcycle Riders and Drivers of Automobiles?

The group members discussed establishing lower BAC levels for riders than for drivers. Participants at times contradicted themselves when talking about the complex operation of a motorcycle versus different BACs for riders and drivers. Riders readily agreed that riding a motorcycle required a high level of concentration, judgment, coordination, and handling ability.

*"Motorcycle riding is much more complex than driving a car, for a lot of reasons."*

*"It's a vehicle you control with your body."*

However, the majority of riders were strongly opposed to lower BACs for riders<sup>2</sup>. The following excerpt captures common views expressed on both the arbitrary nature of legally prescribed BAC levels and opposition to setting a lower BAC for riders than drivers. Riders felt that lower illegal BACs for riders were discriminatory and would set a precedent for differential rule-setting that might lead to more draconian measures at a later time.

*"You know, but for law purposes, they had to set a standard, and that's what they did. So to set it lower for motorcycles versus cars, it's just, it's all arbitrary."*

*"Isn't that discrimination?"*

<sup>2</sup> Human factors performance research by Moskowitz and others (Moskowitz, Burns, & Williams, 1985; Liguori, D'Agostino, & Dworkin, 1999; Grant, Millar, & Kenny, 2000), demonstrate important cognitive and physiological consequences that can lead to poor driving-related performance, even at low BAC levels.



*“I don’t want different laws for cars and motorcycles, because once you cross that line, you can start instituting other things.”*

*“In that case, then I want a different limit for SUVs that weigh 3,000 pounds, you know, if they’re going to lower the limits trying to keep people from drinking and driving, I think it should go all the way across the board. I mean, I don’t care what you’re in—an airplane, a car, a boat, a motorcycle, a gas-powered skateboard—I don’t give a \_\_\_\_\_. Impairment’s impairment.”*

Furthermore, when an occasional rider expressed quiet support for lower BACs for riders than drivers, an “education, not regulation” viewpoint generally emerged.

*“I’d rather see, through education, a change of behavior, rather than through regulation. Because with regulation, you just pile on more and more and it’s hard to find a stopping point there.”*

*“...any motorcyclist by their nature [is] a little more independent, and they don’t want to be told what to do or have anyone nagging them or anything. ....that whole Big Brother aspect.”*

## 2. Willingness to Reduce Drinking and Riding

Across the groups, nearly all riders expressed a willingness to reduce their personal level of drinking and riding. Participants stated that motorcycling and alcohol were not inseparably linked. They suggested that riders were attracted to motorcycling because of its inherent excitement and the satisfaction derived from the activity, and not from the pleasure received from drinking alcohol.

*“It’s not like it was years ago, it’s okay now to walk around with a glass of water and no one will look at you funny.”*

*“...there are other people that believe that poker runs are not bars and should not be bars, and should not stop at bars.”*

### a. Limits of Action and Individual Responsibility

Riders have a strong sense of community with other riders. For example, many riders would stop to help a motorcyclist on the roadside, even a stranger. However, this notion is bounded by respect for individuality and the concept of responsibility for one’s own actions. The following sections explore the balance between intervening with a fellow rider who is impaired versus respect for individual responsibility and independence.



*"You know, it's like it's each person's individual responsibility to do things that are best for them."*

*"...bikers are generally fiercely independent people, and maybe one of the disadvantages of that independence is the most fiercely independent people have a real aversion towards messing in anybody else's business because they don't like people messing in theirs. So on that level, they might be less likely to say anything. Well, you know, he ought to know his own mind."*

*"I always feel uncomfortable watching [other bikers] drink. And I even said something to one of the guys, you know, 'If you're on your bike, two or three is more than enough, much more than enough.' But they do it anyway. You can only talk to people so much and it's their lives. And you hate to see them get in any accidents or anything, **but, you can only do so much** [emphasis added]."*

#### **b. "Only Hurting Themselves"**

In almost every focus group that was conducted, a majority of riders compared drinking and riding a motorcycle with drinking and driving a car, stating that with a motorcycle they will only hurt themselves, not others. This apparently pervasive view seems to reinforce respect for individual decision-making and also increase reluctance for others to intervene. Further, many riders believed that police officers also shared this view and that enforcement activities were focused more on drivers of automobiles who might injure or kill others if involved in an alcohol-related crash.

*"And see my opinion is, if you're going to be drinking then driving, I'd rather be on the motorcycle in some respects because at least I'm only putting myself at risk instead of, when you could do a lot more damage behind the wheel of a car than you can behind the handlebars of a motorcycle, to other people. I'd rather just put myself at risk in that way."*

*"But the only thing about riding that motorcycle [after drinking], they're just going to kill themselves."*

### **3. Acceptable Strategies to Reduce Drinking and Riding**

#### **a. Circumstances and Approaches to Intervention**

##### **(1) "Just Don't Drink"**

Riders discussed several different approaches to intervention. The first level of intervention described by participants is to minimize the opportunity for riders to drink alcohol. In contrast to the poker runs discussed earlier, participants reported organized rides centered on public establishments other than bars.



*"The best time to intervene is before the first drink is served and if you do have to deal with a drunk, do it in numbers [with other persons involved]."*

*"The average, everyday person gets a stereotype that bikers stop at bars and drink... our brunch rides.... They're at 11:00, 12:00 in the morning, 1:00 in the afternoon. A lot of us don't drink anything but orange juice or soda that early in the morning. All our rides that are planned have designated stops that are usually restaurants or gas stations, no bars."*

Intervention can be successful before a rider becomes impaired.

*"They stopped drinking. The next stop that they came to, they came in like 5 or 10 minutes after us. They had a soda. They had stopped drinking. They said that they would stop drinking for the rest of the day until we went to the hotel that night, parked our bikes, and whatever they do after that, they're on their own."*

The next level of intervention begins after a ride is in progress and group members have decided to drink alcohol.

When riders believe that one member of the group is too impaired to ride safely, several factors affect the potential intervener's actions. Our study suggests that two factors are important predictors of intervention: (1) the familiarity of the prospective intervener with the intoxicated rider, and (2) the feasibility of securing or otherwise transporting the intoxicated rider's motorcycle until he is fit to ride.

Friendship seems necessary for intervention.

*"It would depend if they're a friend or not."*

Some riders' comments suggested that the level of determination to stop a friend was related to the length of the friendship.

*"Like I said, I ride with a friend that I've known for many years. And if it came down to it, yeah, I'd take the keys from him, whatever it took – stand in front of his bike if he was trying to take off, whatever."*

But, some riders expressed concerns about intervening, even with friends.

*"I have some really good friends, but I don't know, I'd think a long time before I'd touch their bike."*

*"You could get killed for touching other people's bikes."*

*"I ride with some guys, I mean you can mess around with their wives and they wouldn't care, but don't touch their bike."*



## (2) Separating an Impaired Rider from His Motorcycle

Participants' views suggest that motorcycles are valued for more than a means of transportation or a possession. This leads to extreme reluctance, even when riders are intoxicated, to leave a motorcycle behind. This perception also leads to some reluctance by peers to assume responsibility for the rider's motorcycle. This viewpoint hampers efforts based on "friends not letting friends drive drunk." Calling a taxi for an impaired rider simply is not an option in most cases, nor is a designated driver.

*"Nobody's going to leave a \$15,000, \$20,000 bike sitting there. I wouldn't leave my old bike out. So, much less a good bike."*

*"Because I don't know anybody that would leave their bike at a bar. I wouldn't, no matter what it took, I wouldn't leave a bike at a bar. If I had to sleep on it that night, I wouldn't."*

*"You can't have a designated driver in a group of motorcyclists, you know. The guy's got a lot of money in this iron right there, he's not going to leave it behind."*

*"...None of that's going to happen. No one's going to leave their bike wherever it's at and take a taxi."*

## (3) Reassuring the Rider and Securing the Motorcycle

Without exception and across all Rider Groups, riders stated that they valued their motorcycles above everything else. Only the mention of lower BACs for riders than drivers evoked stronger responses and more striking body language.

**Concern for the security of the motorcycle overshadows all other issues.**

*"I'd have to be passed out before I would leave my bike..."*

*"Like he said, I think a big thing as far as helping out a drunken biker, is if you can assure him, even in his drunken state, that you will take care of his motorcycle, you know, I'll drive your bike home, Joe."*

*"When they're drinking and they're drunk, you have to convince them that you're going to take those keys and put them in your pocket, and you're taking responsibility of their bike and that it's going to be there in the morning."*

Securing a motorcycle typically means storage in a locked garage at a residence, perhaps a fenced yard, on a moving trailer, in the back of a truck, or even indoors at the establishment where they had been drinking, with the establishment owner's permission. The optimal solution is situation-specific.





#### **(4) Club Policies and the Role of Road Captains**

Road captains intervene with drinking riders. Road captains reinforce the club policies, verbal or written, before each ride begins. Thus, expectations for responsible behavior are established, as well as consequences for violations of the rules.

*“And that’s spelled out right before the ride even begins. It’s drilled into them every single time on an organized ride. By getting it drilled into them in this group of people that they know and they respect, I think it means more like that.”*

Road captains are not always formally designated, but some loosely organized group rides include respected riders who function in that role without the title. The results of the Rider Groups suggest that road captains are a common feature of group rides and that they are not limited to groups with an organized structure.

*“In this case, it happened to have been my idea, and I was the unofficial road captain for that trip, and there were no incidents.... It would have been my responsibility to make sure that that person got set aside from the bike and didn’t ride his scooter home.”*

*“Every club, not just this club, but the Honda clubs and others, they all have road captains. They may not necessarily call them a ‘road captain,’ but they are the designated person that’s in charge of the pack while it’s going down the road, which is involved in protection and safety of the pack.”*

#### **(5) Run or Followup Trucks**

One or more followup (or run) trucks or automobiles pulling trailers may accompany group rides on trips of several hundred miles or more. Although originally used solely in cases of mechanical breakdown of a motorcycle, the followup truck can take an impaired rider off the road and secure the motorcycle.

*“Yeah, you always take a run truck, or you take a couple of cars with a trailer and all that, you know, and most of the guys are on the bikes.”*

*“It could happen for any number of reasons. It could happen for a mechanical breakdown, or a guy getting inebriated and we feel that he is unsafe. He’s endangering us as well as himself. And that’s the time he goes into the truck.”*

*“[If] you don’t have somebody else to ride his scooter, the scooter goes in the back of the truck.”*

Road captains in our focus groups clearly stated that this type of intervention is not necessarily motivated by concern for the impaired rider.





*"It's not necessarily always for their benefit. I'll be honest with you, if the fool's stupid enough to go out there – and no offense to anybody that drinks, I've been sober 14 years and I was a stone-cold alcoholic – if you're stupid enough to go out there and ride on a motorcycle, you might as well get laid down and put in the ground. But it's the other people that you're going to kill, is the reason why I stopped it."*

One or more cars with extra riders may follow the pack. Some clubs will substitute one of the riders traveling by car for an impaired rider on a motorcycle.

*"Or if you catch one person and you throw them in the car, and if there's another brother in the car, he gets out and rides his bike. You know, we're conscious of who is going to be able to do that. We just had a Reno run, and that happened to one of the guys. He stayed up all night and almost took the whole pack out. So he [a second rider] got out of the car, and we put another brother on his bike."*

## **b. Elements of a Successful Intervention**

It appears that under certain circumstances, fellow riders can successfully intervene with riders. These circumstances include the following:

- Gatherings at residences where the safety of the motorcycle was a relative certainty
- Organized rides that included followup trucks or cars with trailers
- Circumstances where bar owners allow riders to secure their motorcycles inside the bar, rather than on the street or in a parking lot, or where other options were available for trusted, secure storage of a motorcycle

*"But like when I go to the bars and drink, ...I go to bars where I've got friends, in this town anyway. And when I get there, if I start getting too drunk, they'll tell me. They'll say, 'Hey, why don't you just ride with us?' You know, push your bike inside the bar here, leave it, come back tomorrow and get it."*

## **c. Other Interventions**

Some riders reported other effective approaches to preventing impaired riders from riding their motorcycles. Some of these interventions do not necessarily occur in the context of a group ride, but perhaps in a night on the town. Calling a cab may occur, but only with a suitable plan for securing the impaired rider's motorcycle.

*"Yeah, a guy that, where I used to live was riding, and we were all out together and he was getting ready to take off, and me and a couple other of my buddies stopped in and got his keys and called his wife and she came and got him and picked up his bike the next day."*

*"We've shoved people in a cab, give the cab driver money, say, 'Here. Take him.'"*



*"And then, I mean, it's happened here, or with friends of ours, where you just, 'Hey, you're not riding.' Well, what about my bike? I'm running home to get the trailer, put it in the trailer and I'll come back and get it. Leave the old lady or somebody there watching the bike, take him home, and go back and get his bike."*

Tampering with an impaired rider's motorcycle so that it will not start or confiscating ignition keys are other common approaches. If a rider is sufficiently impaired, they are not likely to identify the malfunction as an intervention.

*"That's right. Plug wires, main switch. The drunk will never even realize what's wrong. He'll sit there and try to turn it."*

*"We pulled the main fuse on the Gold Wing."*

In the Focus Groups, at least one group of participants expressed less inhibition regarding the recipients of an intervention.

*"I'd do it to anybody."*

*If I knew... [A rider is] falling down drunk, and I see him heading towards his bike... yeah, I'd pull the plug."*

#### **d. The Limits of Intervention**

Some riders merely separate the impaired rider from their group. Though group leaders and members seem well versed in informal techniques to minimize the incidence of drinking and riding, as suggested above, there clearly are limits to further action. There are circumstances when riders do not respond to the pleas of their peers who seem to leave no choice but distance for safety. Thus, the drinking rider(s) are separated from the remainder of the group. Of course, this type of intervention does not contribute to the safety of the drinking rider, but it presumably would contribute to the safety of the rider's peers. Further, given the strong social component of group motorcycle riding, ostracizing the drinking riders from the pack may be persuasive in preventing reoccurrence.

*"You shouldn't really be riding. You know, if you want to drink, go find another group to ride with, because we don't need that."*

*"...we've got a riding policy where if we think you're drinking too much, you're on your own. You're not with the group."*

*"We got them at the end of the pack, and they were like 10 or 15 minutes behind us. We would not allow them to ride with us until they stopped drinking. They just weren't allowed to ride in our group, because we're afraid that something is going to happen with them. We told them to stay there, park their bike, get a motel room, they're adults."*



Some participants also claimed that they would consider contacting police to keep a dangerous rider off the road.

*“If I didn’t know the person, and I tried to talk them out of getting on the bike, and they were just insistent or got abusive about it, I would call the police.”*

#### 4. Riders’ Views on Countermeasures and Strategies

##### a. Countermeasure Effectiveness

Focus Group participants discussed several countermeasures. Responses in this area were striking because they were extremely consistent across all groups. The following responses represent the views of the Focus Group participants. They do not necessarily reflect effectiveness evidenced in research or scientific studies.

##### (1) Patrol Effectiveness and Traditional Countermeasures

Contrasting with the views reported on the rider participant information forms, riders were confident that they could ride impaired and yet not be identified and apprehended by police. In open discussion, increased fines, jail time, and license revocation were not considered at all threatening by the vast majority of riders in our Focus Groups. Riders generally believe that their chances of detection for impaired riding are less than those for drivers of cars. Riders cite law enforcement officials’ lack of familiarity with detection cues of motorcycle riding. They point out that cues such as swerving do not work because all riders can be expected to move from side to side as a regular part of motorcycle operation.

*“You can ride [after drinking alcohol] for years and never get pulled over.”*

*“Yeah, I think unless a rider is really toasted, because I think that most cops, most people in general are not as familiar with what the drunk motorcyclist looks like than a drunk car.... It’s harder for a cop to actually detect your riding and drinking too. There’s sort of, it’s easier to see a car swerving and stuff...”*

*“Yeah, we’re changing our lane position constantly when we’re riding and that’s the same thing that’s going to happen when you’re drinking.”*

##### (2) Jail Time, Licenses, and Fines

The majority of riders in our groups perceived fines, imprisonment, and license suspension as largely ineffective. However, some riders indicated that financial disincentives in other forms might be effective.



*"It's maxed out, all you're doing is increasing it. It's not going to phase anybody."*

*"For the most part, riders are adults. They, right or wrong assume that, you know, it's their life, it's their thing, they're going to do what they want. They're responsible human beings; if they want to have a beer and ride, they're going to have a beer and ride. If you triple the penalty and double the fine, I don't think that's going to have a whole lot of influence on that general attitude. I know I feel that way. If you increase the fines, I'd just be more surreptitious about drinking and riding"*

*"Jail time is not going to help. Loss of license? I know right now I can name 30 people that don't have a license, and they're driving bikes and cars. They don't care. Take their motorcycle away..."*

*"...pulling a license doesn't mean anything because there's all kind of guys riding without licenses, particularly motorcycles."*

*"You don't have to have a license to buy a motorcycle."*

Interestingly, the results of the countermeasures balloting reported later in this report differ from comments offered during the focus groups.

### **(3) DUI Convictions, Impoundment, and Their Costs**

Although fines alone were not viewed as an effective deterrent, the combined costs of legal proceedings including fines, court-ordered rehabilitation costs, and/or vehicle impoundment were reported by the Focus Group participants as an effective incentive to avoid drinking and riding.

Charging riders with driving under the influence (DUI) of alcohol may not be effective for all riders.

*"I know guys with 12 DUIs. You think they care?"*

The mention of impoundment, however, provoked animated discussion. Riders respect the prospect of impoundment of their motorcycle for drinking-and-riding offenses.

*"I think that that would be a really good incentive. That would be a reality check right there."*

*"That would probably be more so than a dollar fine."*

*"The State of Arizona convinced me when they said they were going to impound my motorcycle, plus I went back to the fairgrounds under somebody else's power [on a friend's motorcycle]."*

*"And you can't get it back...you know, you've served your 60 days without your license or whatever the penalties that you are given, once you've met all those requirements to get all that stuff back, then you can get your bike back."*



The tone of the discussion was much more serious regarding the costs associated with the consequences of drinking and riding. Some riders said that the total cost of a DUI offense, including court-ordered rehabilitation costs, impoundment and storage fees, and other related costs, totaled at least \$10,000 in some cases.

*“It will easily, yeah, ...CHP [California Highway Patrol] came by to do a safety brief for us and it was like, the average cost was like a little over \$11,000 is what your financial burden is....”*

*“That \$10,000 thing, you know.”*

*“That, and then all the time [in a rehabilitation program], the storage fees for the impoundment.”*

## **b. Riders’ Views on Effective Approaches to Curb Drinking and Riding**

Towards the end of most focus groups, riders were encouraged to describe approaches to curb drinking and riding that they thought might be effective with their peers. These discussions ranged from explorations of values that are important to riders for promotional campaigns or training to detailed discussion of the specifics of campaigns and/or training.

### **5. Peer Approaches**

Riders’ comments suggest that peer approaches offer some hope for effective intervention. An impaired rider’s peers may have influence over the rider.

*“The best way to get somebody else, the guy’s an independent guy, he thinks for himself and is going to do what he wants to do, but if you find he happens to be with a friend, you may make a connection to that guy to help the other guy stop drinking.”*

*“...I agree with that, because a lot of times when you get situations where you’re impaired, but if you have three or four buddies trying to tell you, you know, what you’re about to do is not a good idea, sometimes the message will slowly get through...”*

A consistent theme expressed by riders was that messages discouraging drinking and riding may influence his friends, even though it may not influence a particular rider’s actions.

*“...it might not be something specifically targeting the person who will be drinking and riding, but the people who will be riding with them... everybody looking out for each other, as opposed to people looking out for themselves.”*

*“I would say 99 percent of the time it’s not the rider, because, I don’t know, it’s a Super Man complex, ‘I’m not leaving my bike. I can make it home. I’m not that drunk.’ You know, and it’s their buddy saying, ‘Hey, man, you’re pretty wasted. Let me call somebody.’”*

*“I think it’s more the reinforcement that other riders are giving the rider.”*



The following exchange of dialogue further supports this view:

*“Peer pressure.”*

*“Yeah. Pretty much, at this point.”*

*“That it’s okay to leave your bike?”*

*“Same stuff that starts you drinking can keep you from getting on the bike in the end.”*

## 6. Values Important to Riders: Their Motorcycles and Family

### a. The Bikes

Earlier in this report, we described the value of a motorcycle to its rider. It was suggested in more than one group that the rider’s preoccupation with his motorcycle might be used as a motivating factor in a media campaign. Tow truck operators were frequently accused of unnecessarily damaging motorcycles when they were called to tow them.

*“The thought of a cop calling a tow truck to come and haul your bike away gives you a sobering thought.”*

*“If you’ve seen the way they’ve chained some of them up....”*

Another approach suggested by riders is based on the cost of motorcycles.

*“The only thing [that] makes a difference...especially with the cost of bikes now, that has a lot of money invested in their bike, and you point out to them that, you know, if you screw up your bike, that’s it, that’s more of an incentive than it is telling them, ‘If you ride your bike, you’re going to kill yourself.’ Because they don’t believe they’re going to kill themselves, but they are worried about messing up their bikes.”*

### b. Appeals to Family Values

Riders in this study repeatedly explained their riding behaviors in terms of self-impact only; that is, their behavior and its consequences affect only themselves. Some riders suggested an approach to counter this attitude.

*“You have a family, a wife, and a couple of kids standing around a grave. And a motorcyclist is being buried, you know, or something to that effect. Because it impacts not just you, but it impacts all those that you love.”*

*“Yeah, you have to show who it impacts. Like.... the drug commercial. The one commercial that really hit home for me is the, I think it was actually MADD who did it. They had little kids on there. They’d show like home videos of the kids, and then at the end they’d come up and say, ‘Killed, blah-blah-blah, this date, by a drunk driver.’ Those really hit home to me.”*



At least one participant suggested an educational approach based on boosting riders' views of the importance of their own lives to their families.

*"And it just is that... thought of, if I'm driving by myself, it's only my life I'm risking. If I'm in the car with my entire family, I'm willing to slow down and take fewer chances to not risk their lives. And that's something you need to get across to motorcycle riders that their life is just as valuable as their families' lives."*

### c. Targeting the Message

Riders suggested that the context and content for drinking-and-riding messages is important.

*"I do think a motorcyclist would respond better to a more motorcyclist-oriented commercial."*

*"You hear something about a motorcycle, and you're paying attention because it's what you do. It's what you love; it's what you like. You hear something that is motorcycle specific, you're going to sit up and pay attention, 'What was he saying about motorcycles?' So I think it has to be something that is targeted at motorcycles."*

*"I just think it will catch motorcyclists' attention more if it was targeted at motorcycles. Like if you heard the ad on the radio, and like as soon as somebody says something about a motorcycle on the radio, you're instantly tuned into it because you're a rider."*

Another approach suggested was to expand current media campaigns to include motorcycling.

*"You don't have to make a separate campaign, you just say, you know, 'Don't drink and drive, don't drink and ride.'"*

Furthermore, riders stressed the importance of targeting the message to programming aimed at riders and even towards specific rider subcultures (e.g., cruisers, sport riders). A rider expressed this view in response to a suggestion to recruit popular motocross riders to appear in public service announcements.

*"Put it on shows like Speed Vision, American Thunder, you know."*

*"I mean everybody I know watches Speed Vision, and they've got shows targeted to cruiser guys, and they've got shows targeted to sports bike guys."*

*"You might connect with a certain rider or a certain group of riders, but motorcyclists across the board, well, what do I care about motocross? I wouldn't walk across the street to see it for free.... So if I've got some yahoo that does motocross saying, 'You shouldn't drink and drive,' it's like, hey, kiss off. I'm going to go get a beer."*





#### d. Shocking Messages and Vivid Images

There was some discussion of the perceived ineffectiveness of traditional drinking-and-driving messages, perceived by riders to be focused on drivers of automobiles, including the well-known “Friends Don’t Let Friends Drive Drunk.”

*“I mean, they had a commercial, ‘Friends don’t let friends drive drunk.’”*

*“But a lot of people, you know, will not approach their friends.”*

Alternatively, participants suggested more provocative messages and shocking content, based on rider social values.

*“I saw a really good poster last year at Bike Week. It was a guy with a bike and he says, ‘I drink. I get drunk. I get in a crash. I die. My brother-in-law gets my motorcycle.’ It goes on with this list. And you know, I really honestly think that if you start hitting people between the eyes with, ‘Drinking will kill you, on a motorcycle,’ and advertise it, it works.”*

*“An amputee. Show a guy with, missing one leg.”*

*“A guy in a wheelchair saying, ‘I wish I was still on two wheels.’”*

*“Like the poster they currently have around saying, ‘Hogs can fly,’ and it’s pretty much a disassembled Harley that obviously hit something solid.”*

#### e. Intervention Techniques for Servers and Event Staff

Finally, discussions of the practices of alcohol servers and event staff provided a suggestion for additional training that not only emphasized recognition of impaired riders, but also included intervention techniques.

*“Why not set up some sort of required brief[ing] from some safety official, whether it be local or State or whatever, all personnel that are personally involved in a rally with security, parking, vending, whatever, make it mandatory that they go through a drunk-driving brief[ing]. You know, some sort of awareness training of what you can do legally, what you should do, what are the techniques for handling someone who is too drunk to drive.”*

### 7. Organizational Leadership Views

#### a. BAC and Impairment

In addition to the Rider Groups, we conducted groups with organizational leaders. Although more technical in nature, the leaders’ views were remarkably similar in content to the riders’ views, downplaying the perceived relationship between BAC and impairment.





*“Blood alcohol concentration is just the measurement of the blood of the alcohol concentration at the time of the test. It does not dictate a certain degree of impairment...”*

*“...Because of tolerance and compensation that a person may have, a younger person for example, who’s a nondrinker, may have a very low BAC or blood alcohol concentration, and be falling down drunk; where an older person who has experienced drinking before, who can compensate, who can tolerate, may have a very sobering indicia around him that may not, to a lay person, indicate intoxication or even impairment.”*

*“I think if you’re just talking about alcohol, it gives a good baseline to determine whether somebody’s impaired or drunk. But it’s a societal judgment that puts that this line means that you’re impaired or drunk.”*

*“I suppose it [BAC and impairment] doesn’t take into account personal sensitivity to alcohol, since some people are a whole lot more sensitive to it, and some people less so.”*

In isolation, blood alcohol measures also fail to include impacts of street drugs and prescription medications that interact with alcohol.

*“...besides just alcohol, you always have the possibility of drugs too. So you might have a .00 on a breathalyzer and they’re still impaired because of the drugs.”*

A police officer shared this view.

*“Yeah, impairment is, you know, you’ve got to look at a number of things. BAC helps you establish a guideline as to what you’re charging them with: DUI or under the influence, or DWAI, operating while impaired. I’ve seen people at .24 that you’d never guess they were that high. They could walk, talk, function quite well, only because they have built up such a tolerance to alcohol it’s unreal. And I’ve seen other people at .09 that really have problems talking and walking.”*

## **b. Lowering the Legal BAC for Riders**

Similarly, we asked leaders’ views on lowering the legal BAC of motorcycle riders. We heard two main responses: (1) environmental and experiential factors mediate the impairment associated with alcohol so that identifying a consistent impairing BAC for all riders is nearly impossible; and (2) even if it is possible to scientifically identify such a level, it still would not be feasible to implement for legal and political reasons.

### **(1) The Mediating Role of Environment and Experience**

Most leaders felt it would not be possible to identify a BAC level at which a rider would be as impaired and as potentially dangerous to himself or others as a car driver is at .08.

*“That’s going to vary from individual to individual.”*



As with riders' comments, the role of rider experience was also cited.

*"You have too many variables."*

*"Experience of riding."*

*"Yeah, riding experience is a big one."*

*"And that's what we're finding more than alcohol or anything else is the riding experience. That's what causes most of the accidents. Because most motorcyclists, far and wide, are fair-weather riders. They're not the ones that ride it every day to work or every day to school."*

## **(2) Legal and Political Barriers**

The Leadership Groups cited legal barriers to enacting differential BAC laws, even if proof was available. These groups also raised issues of credibility and political feasibility and cast doubts on the ultimate benefits of such a measure.

*"I think it's indefensible legally."*

*"I would find that highly discriminatory and offensive."*

*"I think as far as changing the blood alcohol to like a .04 versus a .08, I think NHTSA could do the study to prove... I think it could be a controlled study to prove that you have less coordination, or you need more coordination for a bike. I think the bikers themselves, after approaching the helmet issue, would find that that's being put upon them and singling them out, versus the .08 that it is for car drivers. So I think the .08 should stand; I don't think that studies would be believable."*

*"It doesn't matter, because no one has a clue... – if they changed it to .05, like people would get really riled up. But I don't think it would change anyone's drinking because everyone already doesn't think they're drinking to .08 anyway. It's like, that number doesn't correspond to anything anyone understands."*

## **c. Other Enforcement Issues**

### **(1) Riders and the Police**

The Leadership Groups provided an opportunity to gauge the reactions of enforcement officials and others to riders' views on other enforcement issues. Across Rider Groups, we heard two viewpoints about the courts and law enforcement regarding stopping and charging riders: (1) *"police and courts don't care because they figure that this guy is only going to hurt himself and so that will be their penalty";* and (2) *"law enforcement and courts have it out for riders, think that they're bad people because of the stereotype and go out of their way to pick on them."* One law enforcement reaction to these views was:

*"I think they're both falsehoods. We're out there to protect these people. So, I don't go out of my way to pick on motorcycles. ...if they're driving a car or riding a motorcycle, if they're impaired...they're getting arrested."*



## **(2) Impoundment**

Riders reported respect for motorcycle impoundment as a possible consequence of drinking and riding. We asked the Leadership Groups about this issue. It appears that impoundment for alcohol-involved traffic offenses is uncommon in some states and imposed only in the case of felonies.

*“No, because it has to be done through a felony. Drunk driving is a misdemeanor, folks, you can’t seize it.”*

*“Until you get to a vehicular homicide where somebody’s dead, then it becomes a felony.”*

## **(3) Increasing Law Enforcement Emphasis and Collecting Better Data**

A police official provided a resource-related perspective regarding a need for more detailed data on motorcycle crashes and suggestions for enhancing current motorcycle-related enforcement efforts. Police officials in the Leadership Groups noted that data collection translates into increased workload and strain on staffing resources. In addition, it appears that motorcycle enforcement issues pale in the face of other law enforcement and traffic safety priorities.

*“We don’t have the manpower to do that thorough an investigation.”*

*“It’s such a small group of people, it doesn’t warrant the bureaucracy.”*

*“And that’s part of the bigger problem too; motorcycling is such a small subset of the bigger picture.”*

### **d. Leadership Suggestions for Innovation**

The results of the Leadership Groups provided several potentially compatible approaches: (1) victim impact panels, (2) spontaneous classroom vignettes, and (3) social norms models. The following excerpt describes an ongoing program. The Colorado Victim Impact Panels (VIP) is a group of volunteers who speak at training program and other settings on the impacts of DUI offenders on themselves and/or their families.

*“We’ve had guys who were arrested for DUI and convicted of a homicide come in and talk about what it meant to have that incident happen and how it’s affected not only them, but the person they killed and that type of thing. And that seemed to be pretty meaningful.”*



A motorcycle safety instructor described how he employs the VIP approach during his classes by using spontaneous classroom vignettes.

*"I think the best way to get across the message is to have somebody within the group that they've been riding with for the whole weekend, learning with for the whole weekend, stand up and tell a personal story about why it sucks. I mean, that's [why] I invited my class. 'Has anybody here got a DUI or know somebody close to them who did, or other alcohol-related driving problem and want to tell us about it?' And you know...in half the classes I teach, somebody actually does have the courage to stand up and explain... I think that's where the influence occurs."*

The discussion shifted to social norms models (Perkins et al., 1999; Perkins, 2002), as this dialog excerpt indicates.

*"We've used that social norming (sic) model as part of our grant work. And I'm not sure how that would work with motorcycles. We haven't done any specific motorcycle social norming [sic] project, but that might be something we could take a look at."*

*"Oh, you know, I think \_\_\_\_ has a really good point, that there's so much pressure to drink and to socialize coming at you from every direction, I think it does overpower the other – what did you say?"*

*"I was saying, that's what social norming is, trying to change that attitude."*

## 8. Leadership Groups' Views on the Roles of Relevant Groups and Organizations

We discussed the role of various organizations in reducing drinking and riding.

### a. Law Enforcement Agencies (LEAs)

The Leadership Groups described the traditional LEA roles of enforcement, public information, and education. Law enforcement agencies are working with driver education schools and becoming involved in server training. Most ongoing activities tend not to focus upon drinking riders (as opposed to car drivers), except for the NHTSA-developed training cues video. The dialogue excerpt below further illustrates this point.

*"In fact, our SFST [Standard Field Sobriety Testing] training will mention the new detection clues, or some of the SFST courses mention the new motorcycle detection clues, driving detection clues that were put out by NHTSA. And some of them will actually use that video that they came out with. And that's the only riding specific education piece that I can think of that's used anywhere in the State that's specific towards motorcycles."*

*"...you're talking about educating the officers."*

*"Right, that's law enforcement education, yeah. And I think that's the only thing that is specific towards motorcycles as far as any type of education."*



At least one Leadership Group member lamented the lack of programs with motorcycle-specific content, even in areas with high levels of motorcycle ridership.

*"They have all kinds of public safety programs, you know, a ticket for no seatbelt use and stuff like that. You really – at least I haven't seen anything specifically for drinking and riding. They have drinking-and-driving campaigns, but you know, nothing about riding at all really. And with the popularity of motorcycles, especially here with all the rallies and reunions and stuff they have, you know, they probably should stress that more, especially at those times."*

#### **b. Rider Groups**

There was widespread agreement that Rider Groups can play an important role in reducing drinking and riding by changes in club policies and practices.

*"I think they can have an important role, and I think they have been addressing it in the past in their different clubs and organizations. And again, that's why I'm thinking that in many cases, it's the independent [rider] that's having the problems out there, more so than those that are in clubs..."*

*"....They have kind of a lock-in, where it's understood that if they come in there and have something to drink that they don't leave. They stay in. I think that that's becoming more the norm. It's the ones that are hanging out at the corner bars and having picnics or parties or something like that, and it could be young folks that are going to their little rockets and going out and crashing them afterwards."*

One leader noted that not all Rider Groups are necessarily promoting sober riding.

*"I get the [motorcycle rider group] magazine every month, I think it comes out monthly. And sometimes I have a hard time going through that magazine and finding a page where there's nobody drinking a beer. It's really hard to find a picture where nobody is drinking. And if you get that kind of culture being published and disseminated by a large group, it's just almost self-fulfilling, I think. You could say, 'Well, just because somebody is sitting there drinking beer, does that mean they get on the motorcycle and ride?' Well, you figure the probability."*

*"....But, on the other hand, I think in groups I hang out with occasionally, I've seen over the last 20 years, a much more responsible approach to drinking and riding — planning activities that don't involve it, and readily accommodating alternatives to alcohol."*



The Leadership Groups suggested that some of the older, traditional motorcycle clubs are moving away from drinking and riding and offered possibilities for peer approaches.

*“...You’re looking at organizations such as the Golden Low-Riders, the HOG riders groups, and that kind of thing that are more responsible, and they’re more organized as opposed to some of your small clubs which really aren’t organized....”*

*“Yeah, I think coming full circle again, that’s where maybe the nucleus of that peer pressure might stem from, those organized rider groups who are then becoming ambassadors for messages and self-policing, if you will, on rides, rallies, runs, and otherwise. But they may need the tools to do that, albeit public service or videos...”*

*“I think it’s... getting to those people through their peers and giving them the right tools to make some sense to those people.”*

### c. Rider Training Programs

An interesting suggestion was offered for followup over time with graduates of the program to reinforce the antidrinking and riding message.

*“... follow-up...with the newer riders on their experiences and, to keep that subject fresh in their mind.”*

### d. State Motorcycle Safety Programs/State Highway Safety Offices

There was some discussion regarding the failure of motorcycle safety programs to compete successfully with other traffic safety priorities for attention and resources and possible future expansion of mandatory motorcycle safety training.

At least one of the Leadership Groups was highly critical of the way in which State highway safety offices administered Federal funding.

*“And all that DUI money is primarily focused on the automobile drivers.”*

State highway safety programs were also encouraged to promote both impaired rider awareness and detection training among law enforcement personnel.

*“But to maximize law enforcement, if we can make them aware that this is the problem, just as I think the motor vehicle or the car community has, and they have kind of cracked down on that, maybe that would help save lives.”*



#### e. The Hospitality Industry

At least one group discussed the role of the hospitality industry. Overall, Leadership Group participants agreed with some riders' perceptions that owners and servers were most interested in sales and tips, respectively, but another perspective emerged.

*"And that gets into a real sticky wicket, because then you're talking about capitalism."*

*"And interference with, you know, people want to drink and now somebody, all of a sudden the cook is the judge, jury, and executioner as to, 'You've had too many.' It sounds like the Old West to me. So, from that avenue, I couldn't see any kind of enforcement taking place, because who's going to do it? But I think that's where the real public service might come in to play, in restaurants and bars. **They have a public service duty, not an enforcement duty**" [emphasis added].*

#### f. Motorcycle Manufacturers and Dealers

Motorcycle manufacturers, dealers, and specialty repair shops were also identified as potential avenues for increasing awareness of drinking-and-riding issues.

*"You know, Kawasaki alone had 1,100 dealers. And when we needed to get information out to owners, that was one way to reach them. And every manufacturer has a warranty registration list as well. So you're not talking about just reaching the 10 percent; you're talking about reaching the whole population..."*

#### g. The Insurance Industry

Discussions of insurance industry roles centered on increasing awareness and offering of discounts.

*"Well, they can certainly help with awareness too. I mean, it's in their best interest not to have drinking motorcyclists out there."*

*"What kind of discounts? ... Well, if you've got a driver education course, I would think that it should be worth something, and the incentive discount on the amount of training you've had."*

### E. Intervention Ballot Findings

Before the *close* of each Rider Group session, we asked participants to complete an intervention ballot and a countermeasures ballot. The former asked whether certain alternatives to drinking and riding would "work for you" and the latter asked whether certain countermeasures would "make a difference." The results are displayed in Table 13.



**Table 13. Results of the “Alternatives” Balloting**

Intervention	Would it work for you?					
	Yes	[N(%)]	No	[N(%)]	Total	[N(%)]
Take a taxi home?	43	(33.3)	86	(66.7)	129	(100)
Sleep it off at a friend’s house or motel/hotel?	101	(78.2)	28	(22.8)	129	(100)
Call a friend with a truck or van?	88	(68.2)	41	(31.8)	129	(100)
Abstain from drinking?	90	(69.7)	39	(30.2)	129	(100)
Avoid riding and drinking in some other way (Describe in a few words.)	62	(48.1)	67	(51.9)	129	(100)

**Table 14. Recoded Results of “Other” from the Alternatives Ballot**

Other Alternatives to Drinking and Riding					
Seek Other Means	Limit Intake	Plan	Attend Alcohol-free Events	Misc.	Total
[N(%)]	[N(%)]	[N(%)]	[N(%)]	[N(%)]	[N(%)]
23 (37.1)	14 (22.6)	6 (9.7)	4 (6.5)	15 (24.1)	62 (100)

The recoded results of “Avoid riding and drinking in some other way?” from Table 13 are displayed in Table 14. “Seek other means” included responses such as driving a car, traveling in a friend’s car, and riding with a designated driver. “Limit intake” included responses such as drinking soda, alternating soda and beer, and slowing consumption towards departure time. “Planning” included general suggestions to “plan ahead” and planning to camp-out or sleep at a motel. Miscellaneous responses included “take keys, stay at home,” and other suggestions.

**Table 15. Results of the “Countermeasures” Balloting**

Intervention	Would it make a difference?					
	Yes	[N(%)]	No	[N(%)]	Total	[N(%)]
Increased fines?	65	(50.4)	64	(49.6)	129	(100)
Increased jail time?	80	(62.0)	49	(38.0)	129	(100)
Loss of license?	87	(67.4)	42	(32.6)	129	(100)
Motorcycle impoundment?	104	(80.4)	25	(19.5)	129	(100)
Increased law enforcement?	68	(52.7)	61	(47.3)	129	(100)

Comparison of the results of these ballots with the focus group results revealed both similarities and discrepancies.



**a. Similarities**

Using a taxi to return home (implying leaving one's motorcycle behind) was clearly unpopular by a 2:1 margin, whereas "sleep it off" and "call a friend with a truck" (both implying motorcycle security) were clearly popular by nearly 4:1 and over 2:1 margins, respectively. The abstinence responses (over 2:1 in favor) are largely consistent with the stated drinking habits of the group participants.

In the countermeasures ballot, a risk of motorcycle impoundment seemed persuasive to riders, consistent with the focus group discussions. However, the split votes on the fines and law enforcement questions were not consistent with the moderately negative tone of the focus group discussions on these same topics.

**b. Discrepancies**

As shown in Table 15, 65 percent of riders reported that increased fines and 80 percent of riders reported that increased jail time would influence drinking-and-riding behavior. But, there are discrepancies between these results of the countermeasures ballots and riders' spoken views during the focus group. During the focus groups, nearly all riders said that increased fines and /or jail time would not influence riders' behavior, and their body language and their enthusiasm when expressing these views echoed their words. There are three possible explanations for the apparent discrepancy. First, some riders would be more inclined to publicly exhibit their indifference regarding increased jail time and loss of license. Analysis of the transcripts clearly shows that discussion of this topic was dominated by those expressing extreme indifference to these consequences. Second, social desirability bias—a desire and tendency for approval from one's peers (Crowne & Marlowe, 1964)—could clearly inhibit more concerned riders from expressing their opposing views. Third, it is possible that the focus group comments reflect riders' views of the effectiveness of these measures for "hard core" drinking riders (not themselves) and that the intervention ballots reflect the participants' views of these countermeasures for themselves.



## V. Overall Themes and Summary of Findings

### A. Rider Groups

- Most motorcycle riders in these groups consistently reported that they rode a motorcycle for the benefits obtained from experiencing the open road, for the opportunity to unwind from life's daily pressures, for the satisfaction associated with mastering the operation of a powerful machine, and for membership in an elite group. A common comment was that riding allowed one to stop thinking about everyday worries and concentrate on riding.
- Riders consistently characterized their strong social affinity for other riders, suggesting a strong sense of community.
- Riders ride under different circumstances. Riders in our focus groups expressed a range of riding preferences: some primarily rode in groups, others rode alone, and some rode both alone and in groups, depending on the circumstances. The majority felt that there was a limit to how big a group ride could be and still operate safely. However, there were different opinions as to how big that group would be.
- Eighty-seven percent of the riders in this study said they drank alcohol. More than half stated they currently drank a few times per month to a few times per week.
- Many of the drinking riders stated they drank more frequently in the past and drank and rode more regularly in the past. Nearly all of the respondents answering they *never* drank alcohol identified themselves as recovering alcoholics.
- Nearly all participants, at times, had made decisions about whether to drink and ride.
- Forty-eight percent of the riders in this study reported riding *seldom* or *occasionally* after drinking, and the transcripts corroborate these findings.
- Forty-eight percent of the riders in this study reported never riding after drinking, and the focus group transcripts are consistent with these data.
- Typical rider-identified drinking-and-riding circumstances and venues include biker bars, other bars and public establishments serving alcohol, poker runs, national or regional rallies, and events and club meetings.



- Most riders are familiar with the term “BAC,” but question its value as an indicator of impairment.
- A fundamental belief among riders is that “since drinking riders only hurt themselves” (unlike car drivers), government intervention to discourage drinking and riding is inappropriate. This belief is strongly linked to rider views of freedom and independence.
- Virtually all riders in this study were vehemently opposed to the setting of a lower BAC for riders relative to car drivers.
- Riders often discourage their peers from riding after drinking, but a culturally reinforced respect for rider individuality and freedom and strong beliefs in individual responsibility set boundaries for peer actions.
- Rider concern for the safety and security of the motorcycle nearly always overshadows concerns for individual safety and contributes to drinking and riding.
- Riders participating in this study did not consider traditional countermeasures for drinking and riding such as fines and license suspension persuasive.
- Motorcycle impoundment and court-ordered payment of costs for vehicle storage, alcohol rehabilitation programs, and other additional costs, however, were considered persuasive.

## B. Leadership Groups

- The participants in the Leadership Groups identified BAC as only one of several factors that contribute to impairment.
- The Leadership Groups identified overwhelming legal and political barriers to the concept of a lower legal BAC for riders of motorcycles than for drivers of cars.
- The Leadership Groups identified approaches based on victim impact panels and social norms models as potentially promising directions for changes in motorcycle rider education programs.



## C. Comparisons With the 1994 NHTSA Study

There are striking parallels and notable differences between the findings of this study and the NHTSA-funded 1994 focus group study. Both are outlined below.

### 1. Similarities

- Riders in our study were as passionate about motorcycling and the experience of riding as the 1994 focus group participants. Many of the quotes in the 1994 report were noticeably similar to the quotes in this report.
- In both studies, many riders believed that drivers of cars frequently caused motorcycle crashes, either indirectly through carelessness or directly with presumed forethought and malice.
- Riders in both studies believed that individual differences were important in physiological reactions to alcohol.
- Although not a focus of the current report, riders in both studies stated that they would rather drive a car than ride a motorcycle if they knew they would be drinking at their destination. There were subtle differences in the way this area was probed in the two studies: the current study asked this question in the context of *any* drinking, whereas the prior study seems to have asked this question in the context of *heavy* drinking.
- Both studies indicated that intervention with friends commonly occurs. Confiscating keys and tampering with ignition systems were reported in both studies as ways to disable motorcycles of impaired riders. Riders in both studies were equally reluctant to leave their motorcycles unattended overnight in public parking areas and also reported the use of trucks or vans to transport the motorcycles of impaired riders.
- In open discussion, riders stated that fines and license suspension were viewed by their peers as ineffective countermeasures.
- Impoundment or the total loss of a motorcycle due to damage drew substantial, animated responses from riders in the current study and are comparable with the responses from the 1994 study.



## 2. Notable Differences

As the focus of this study was different from the 1994 study, the sample selection differed. The 1994 study was interested in identifying messages that might deter riders from riding after drinking. As such, the participants were riders who admitted to riding after drinking. This study sought to identify the reasons and decision making for riders who chose to drink and ride, and for riders who chose not to drink and ride, even though they did drink alcohol. Consequently, the sample in this study consisted of riders who said they did drink alcohol, but some indicated that they rode after drinking while others did not.

- Unlike the 1994 study, the results of this study do not suggest that drinking and riding are consistently co-occurring activities. A substantial number of riders participating in this study reported that motorcycle club activities are moving closer towards alcohol-free events. They also said that drinking riders, even if not always considered a hazard to themselves, are considered a hazard to other riders.
- Our study revealed that organized club riders and road captains said that followup trucks, which typically carried additional group gear and supplies, were used to transport motorcycles that had experienced mechanical failure during a ride. They were also used to transport the motorcycles of riders who had become a hazard to themselves and/or to the group due to drinking alcohol while engaged in a group ride.
- The results of the current study suggest intolerance to drinking riders by their riding peers. Road captains reported that drinking riders were often asked to refrain from further drinking and, if they did not comply, were asked immediately to leave a group ride.
- Our study also revealed that riders in at least one region of the country had experienced the substantial economic and other disruptive impacts of DUI/DWI convictions, and expressed strong desires to avoid repeating this experience. Overall, participants viewed fines alone as nonpersuasive; however, the total costs of fines, court costs, attorney fees, rehabilitation costs, and impoundment fees and storage charges were cited as consequences to avoid and reasons not to drink and ride.



## VI. Conclusions and Recommendations

### A. Answers to Study Questions

Under what circumstances do motorcyclists drink and ride?

Riders described five typical circumstances that are likely to result in drinking and riding.

- The most traditional circumstance of drinking and riding revolves around bars that have traditionally catered to the riding community, popularly known as “biker bars.” Some of these establishments even feature unique drive-up serving arrangements that allow motorcycle riders to purchase and consume alcoholic beverages without dismounting from their motorcycles. Individual rider preference determines how much riding occurs after drinking in these situations, but it seems quite common.
- Other bars and public establishments that serve alcoholic beverages serve as routine meeting places and traditional social venues. Rider preference determines how much riding occurs after drinking in these situations. Riders said that perhaps not as much drinking and riding occurs here as might be expected based on the number of motorcycles parked outside because some of these riders may be displaying themselves and their motorcycles rather than focusing on drinking. Also, concern for damage to the motorcycles may minimize drinking.
- Riders in our groups described poker runs as organized rides on a route consisting of destinations that riders visit to collect a *card for their hand* (written verification of arrival at a particular destination). They typically purchase products (alcoholic or nonalcoholic) or services offered for sale by each establishment on the route. According to the riders in our groups, traditional poker runs consist of circuits of bars, and riders are expected to drink an alcoholic beverage at each stop. They stated that considerable drinking can occur under these circumstances.
- National or regional rallies or meets are well known for the presence of one or more “beer trucks.” Drinking and riding under these circumstances also can be considerable.
- Club meetings may occur at private venues owned by the club or at a public establishment’s meeting room. Drinking and riding under these circumstances is a function of the drinking-and-riding policies of each club.



Do motorcyclists understand what the term “BAC” means?

Most riders understand that BAC is an abbreviation for blood alcohol concentration. They understand the importance of BAC in a legal context with regard to DUI, DWI, DWAI, and other prosecutorial distinctions, but they also consider legally prescribed BAC levels as arbitrarily determined and not necessarily related to impairment.

At what BAC do motorcyclists believe a motorcyclist becomes impaired and riding skills begin to deteriorate?

Riders’ views on BAC prevent a clear answer to this question. All attempts to explore this area were characterized by riders’ denunciations of BAC in the context of impairment. Some riders were transiently willing to indicate that riding skills deteriorated at a lower BAC than driving skills, but these discussions did not result in a rider consensus in this area.

Should the illegal BAC level for motorcyclists be reduced to reflect the level at which rider skills are impaired?

Nearly all riders were strongly opposed to the suggestion of lower illegal BACs for riders only, but were less resistant if the BAC was lowered uniformly for riders and for drivers of cars. Even riders who felt that a lower BAC level might be appropriate from a safety standpoint thought that it would be discriminatory and impossible to pass into law for political reasons.

Leadership Groups repeatedly stated that even if this level could be scientifically identified, the motorcycling community would view the results with suspicion. It might also run the risk of awakening latent motorcycling activist groups into open opposition against this and possibly other motorcycle safety measures. Additionally, it might be viewed as discriminatory and politically unfeasible.

What would motorcyclists be willing to do to reduce drinking and riding?

Before riding, drinking riders are willing to reduce their drinking to levels that they perceive as within their limit. Riders and road captains consistently stated that their clubs have adopted and enforce policies to minimize drinking and riding. These policies typically take the form of informal club rules and more formal bylaws. Extending the use of followup trucks to riders impaired by alcohol is one example of a current practice that minimizes riding after drinking.



What are effective strategies for reducing impaired motorcycle riding?

The results of the Rider Groups and Leadership Groups indicate that enhancing peer activities; incorporating social norms models into drinking-and-riding awareness programs; offering responsible server training and expanded crisis intervention training to servers, event staff, motorcycle organization leaders, members, and rank-and-file riders; and exploring the feasibility of encouraging motorcycle impoundment as a countermeasure are promising approaches for reducing impaired motorcycle riding. These strategies are discussed in more detail on pages 50–53.

What is the role of each of the following in addressing impaired riding?

#### Law Enforcement Agencies

The results of this study support continued participation in enforcement, public education, and educational activities. Leadership Group participants encouraged widespread training of law enforcement personnel in the NHTSA program, “The Detection of DWI Motorcyclists.” In addition, in jurisdictions with large numbers of registered riders, law enforcement agencies should consider greater involvement in rider training programs and direct involvement in drinking-and-riding prevention efforts oriented specifically to the riding community.

#### Rider Groups

Rider Groups can play an important role in reducing drinking and riding. Activities can include sponsoring alcohol-free rides and lock-ins, changes in formal and informal club practices to discourage or prohibit drinking and riding, and other forms of internal policing, where feasible. Umbrella organizations that reach out to individual riders or that are considered influential or trend setting should consider changes in sponsorship and publication policies to disassociate motorcycling and alcohol.

#### Rider Training Programs

Encouraging expansion of training capacity is an important priority for these programs. Rider training programs also might consider the feasibility of longer-term followup with graduates of their programs. The Rider Groups spoke favorably of the Motorcycle Safety Foundation’s Basic RiderCourse® and Experienced RiderCourse®. Expansion of training opportunities for this program, especially with its integrated drinking-and-riding elements, seems desirable.





### State Motorcycle Safety Programs/State Highway Safety Offices

These agencies should consider expansion of current mandatory training programs across all States and future requirements for re-training for re-entrant riders.

### Motorcyclists

The responsibility for reduction of drinking and riding weighs most heavily on riders. Individual riders can encourage their peers not to drink and ride and to refrain from participation in clubs and events that do not discourage drinking and riding. They can also encourage their clubs and organizations to sponsor lock-ins and alcohol-free events. The overall response from riders is that they are already doing everything they deem appropriate to prevent themselves from drinking and riding.

### Highway Safety Organizations

As with State highway safety offices, the results of the Leadership Groups suggest the need for a renewed emphasis on motorcycle safety within the total complex of highway safety programs. Credibility would be enhanced among motorcycle riders if some of these efforts also included motorcycle-awareness campaigns aimed at car and truck drivers.

## B. Strategies to Reduce Drinking and Riding

Riders in this study offered remarkably consistent reasons for riding motorcycles, emphasizing themes of freedom, independence, and membership in a special community of peers. Riders in this study appear to view themselves very differently from drivers of cars, and this difference carries implications for prevention efforts. For example, the motorcyclist is more inclined to accept and take risks and to view himself and his fellow riders as individuals, responsible only to themselves and for themselves for the actions they take and disinclined to change their beliefs or behaviors based on mandates or suggestions from a centralized authority (e.g., government). This context is important when considering suitable strategies to reduce drinking and riding.

### 1. Enhancing Peer Activities

The strong social fabric of the motorcycle riding community and the ongoing informal peer-based activities to reduce drinking and riding suggest that building on existing peer-based activity may be an effective approach to reduce drinking and riding. This could be



accomplished in two ways: (1) develop or modify existing peer intervention curricula or training and (2) offer training seminars to leaders of nationally recognized motorcycle organizations in a cost-effective, train-the-trainer format, and disseminate this training to local motorcycle clubs.

## 2. Social Norms Models

The results of the Leadership Focus suggest that social norms models (Perkins et al., 1999) should be explored for application to motorcycling, specifically drinking and riding. Our findings suggest that this may be promising because (1) riders report that their groups already discourage drinking and riding; (2) new and independent riders may harbor misconceptions of rider views on drinking and riding; and (3) the social norms model is already in use on college campuses and in some state-based youth alcohol and driving programs. At least one university has demonstrated its effectiveness in reducing on-campus drinking by 29.2 percent (Johannessen et al., 1999) where students were educated concerning drinking norms on campus, contrary to their perception of heavy drinking as the status quo. Social norms modeling may also serve to reinforce ongoing and future peer-based interventions; for example, expanding the norm of concerns for group safety (“don’t ride near me”) to include concerted drinking-and-riding intervention (“don’t drink and ride”).

## 3. Intervention Techniques

The Rider Groups offered a suggestion for awareness training for servers and event staff in techniques for intervention with intoxicated riders. Crisis Intervention Techniques have been used for at least 20 years (Mitchell, 1981). NHTSA might consider exploring the applicability and portability of these techniques to servers and event staff and also to motorcycle organization leaders and members.

## 4. Encouraging Motorcycle Impoundment

Our findings suggest that motorcycle impoundment may be an effective countermeasure to drinking and riding. Riders indicated that the risk of motorcycle impoundment would discourage them from drinking and riding, more so than other potential consequences. NHTSA might consider studying motorcycle impoundment and exploring the feasibility of encouraging its expansion in circumstances of drinking and riding.



## 5. Target the Message

Our findings suggest that drinking-and-riding media messages should incorporate specific motorcycle content. Riders indicated that messages should be aimed at specific rider subcultures (e.g., sport bike riders, cruisers), rather than generically at all motorcyclists.

Table 16 is a summary of varied approaches to reducing drinking and riding, identified as promising by focus group participants.

**Table 16. Strategies for Reducing Drinking and Riding**

<b>Peer Activities</b> <ul style="list-style-type: none"> <li>– Build on existing peer-based activities (e.g., group rides)</li> <li>– Offer training seminars to group leaders</li> <li>– Disseminate prevention training materials to local clubs</li> </ul>	<b>Social Norm Models</b> <ul style="list-style-type: none"> <li>– Develop multimedia approaches to change drinking-riding attitudes</li> <li>– Address the “not-hurting-anyone-but-myself” concept</li> <li>– Move from “don’t ride drunk near me” to full drinking-riding intervention</li> </ul>
<b>Intervention Techniques</b> <ul style="list-style-type: none"> <li>– Provide awareness training to servers and event staff</li> <li>– Provide crisis intervention training to motorcycle organizations</li> </ul>	<b>Vehicle Impoundment</b> <ul style="list-style-type: none"> <li>– Study impoundment issue</li> <li>– Consider expansion of impoundment laws</li> </ul>
<b>Targeting the Drinking Rider</b> <ul style="list-style-type: none"> <li>– Identify specific rider subgroup(s) contributing to drinking and riding</li> <li>– Use appropriate messages, images, and media to reach the drinking rider</li> <li>– Incorporate message: “Sober Riding = Protecting Your Motorcycle”</li> </ul>	

## C. Other Recommendations

- Focus group participants expressed considerable interest in the findings of recent NHTSA studies. To avoid influencing their focus group comments, we deferred responses to their questions to the end of each group meeting. Riders most commonly asked about the type of motorcycles (sport bikes or cruisers) that were most often involved in fatal alcohol-related motorcycle crashes. This data element is currently unavailable. We recommend that future studies of motorcycle crash fatalities try to capture this type of information.



- We recommend caution in expanding the role of victim impact panels in motorcycle safety training. Polacsek et al. (2001) reported that victim impact panels are not effective in moving individuals through the stages of change toward not drinking while driving (Procaska et al., 1994, and prior studies). Furthermore, de Baca et al. (2001) reported that exposure to victim impact panels is actually associated with an increase in arrest rates for female repeat DWI offenders.
- More research is needed on drinking and riding. In the absence of more specific information, many riders will assume that they need not be concerned about drinking and riding because they believe that the impaired riders at risk are always “the other guys.” Information on age and engine displacement, for example, is available from FARS, but other data are lacking. Are the older impaired riders primarily riding sport bikes or cruisers? Are they primarily novice or experienced riders? Answers to these and other related questions will not only refine our understanding of the drinking-and-riding issue but also will aid in the development of targeted information campaigns that may be more likely to influence riders’ views.



## VII. References

- de Baca, J.C.; Lapham, S.C.; Liang, H.C.; & Skipper, B.J. (2001). Victim impact panels: Do they impact drunk drivers? A follow-up of female and male, first-time and repeat offenders. *Journal of Studies on Alcohol*, 62(5), 615-620.
- Grant, S. A.; Millar, K.; & Kenny, G. N. C. (2000). Blood alcohol concentration and psychomotor effects. *British Journal of Anaesthesia*, 85(3), 401-406.
- Johannessen, K; Collins, C; Mills-Novoa, B.; & Glider, P. (1999). A practical guide to alcohol abuse prevention: A campus case study in implementing social norms and environmental management approaches. Tucson, AZ: University of Arizona.
- Liguori, A.; D'Agostino, R. B.; & Dworkin, S. I. (1999). Alcohol effects on mood, equilibrium and simulated driving. *Alcoholism: Clinical and Experimental Research*, 23(5), 815-821.
- Loxley, W. (2001). Drowning in words? Using NUDIST to assist in the analysis of long interview transcripts from young injecting drug users. *Addiction Research & Theory*, 9(6), 557-573.
- Mitchell, Jeffrey T. (1981). Emergency response to crisis: A crisis intervention guidebook for emergency service personnel, XXV, 218. Bowie, MD: R.J. Brady Co.
- Moskowitz, H.; Burns, M. M.; & Williams, A. F. (1985). Skills performance at low blood alcohol levels. *Journal of Studies on Alcohol*, 46(2), 482-485.
- Perkins, H.W.; Meilman, P.W.; Leichliter, J.S.; Cashin, J.R.; & Presley, C.A. (1999). Misperceptions of the norms for the frequency of alcohol and other drug use on college campuses. *Journal of American College Health*, 47(6), 253-258.
- Polacsek, M; Rogers, E.M.; Woodall, W.G.; Delaney, H., Wheeler, D.; & Rao, N. (2001). MADD victim impact panels and stages-of-change in drunk-driving prevention. *Journal of Studies on Alcohol*, 62(3), 344-350.



Prochaska, J.O.; Velicer, W.F.; Rossi, J.S.; Goldstein, M.G.; Marcus, B.H.; Rakowski, W.; Fiore, C.; Harlow, L.L.; Redding, C.A.; Rosenbloom, D.; & Rossi, S.R. (1994) Stages of change and decisional balance for 12 problem behaviors. *Health Psychology*, 13, 39-46, 1994.

QSR International Pty. Ltd. QSR NUD-IST, Melbourne, Victoria, Australia.

Shankar, U. (June 2001a). *Fatal single motorcycle crashes* (Report No. DOT HS 809 360). Washington, DC: National Highway Traffic Safety Administration.

Shankar, U. (October 2001b). *Recent trends in fatal motorcycle crashes* (Report No. DOT HS 809 271). Washington, DC: National Highway Traffic Safety Administration.



# Appendices







## Appendix A.

# Motorcycle Focus Group Telephone Screening Form

Pacific Institute for Research and Evaluation is conducting a Focus Group study to determine what motorcyclists do to avoid drinking and riding while intoxicated. We want to include people in our study who have many different motorcycling backgrounds. We would like to ask you a few questions to understand your motorcycling background. Please answer all questions honestly, there are no right or wrong answers, and your responses will be kept confidential.

1. Name \_\_\_\_\_
2. Phone number where we can reach you (\_\_\_\_) \_\_\_\_\_
3. What is the best time to reach you? \_\_\_\_\_
4. E-mail Address \_\_\_\_\_
5. How did you find out about this project? \_\_\_\_\_
6. Age \_\_\_\_\_
7. Do you consider yourself:
  - a. White
  - b. African American
  - c. Asian
  - d. Native American
  - e. Pacific Islander
  - f. Hispanic / Latino
  - g. Other \_\_\_\_\_
8. Years of riding experience \_\_\_\_\_
9. How often do you ride?
  - a. daily
  - b. several times/week
  - c. several times/month
  - d. several times/year
10. Do you ride: (circle all that apply)
  - a. to work/school
  - b. to after work/school activities
  - c. for recreation - alone
  - d. for recreation - in groups
11. What groups do you ride with? \_\_\_\_\_  
\_\_\_\_\_
12. Do you drink alcohol? Y / N
13. When was the last time you rode after drinking what you now think was probably too much to drink and ride safely?
  - a. within the last month
  - b. within the last 6 months
  - c. within the last year
  - d. more than a year ago
  - e. never
14. Have you ever been convicted of driving or riding while intoxicated? Y / N
15. Are you available on:
  - a. \_\_\_\_\_, 2001
  - b. \_\_\_\_\_, 2001
16. Are you available in the:
  - a. afternoon
  - b. evening





## Appendix B.

# Moderator's Guide for Motorcycle Leadership Groups

*Distribute the Participant Information form for completion before the session.*

“Please fill out both sides.”

### INTRODUCTION

- Moderator welcomes participants and introduces self and colleague.
  - Explain what the Pacific Institute is and that the National Highway Traffic Safety Administration is funding for the study.
  - Explanation of project; purpose of group discussion.
  - Preview what will happen during the next 90 minutes, when they will be paid, etc.
  - We are interested in participants' views and experiences regarding drinking alcohol and riding motorcycles. There are no right or wrong answers.
  - We are interested in your personal point of view, not professional point of view.
  - Views will be kept confidential; no names will be used; we expect participants to keep what they hear during the focus group confidential as well.
  - We value the information you will share with us today and want to make sure we capture all of it. So we will be taping the session and taking notes. Is everyone okay with that?
- TURN ON RECORDER
- GROUND RULES: informal; 90 minutes; 5-minute break, but feel free at any time to get up (go to the bathroom, grab a snack, etc.); we'd appreciate if you set your cell phones or pagers to 'vibrate'; would like only one person to talk at a time, but hope everyone will speak up; appreciate input.
  - Any questions?
  - ICEBREAKER: Ask each participant to introduce her/himself with her/his **first name only** and briefly describe her/his present organizational or professional interest in motorcycle riding?



## Impairment and BAC

### 1. *What does the term “BAC” mean to you?*

PROBES:

What is the legal limit here? For car drivers? For riders?

A legal definition?

A safety level?

### 2. *At what BAC do motorcyclists become impaired and riding skills begin to deteriorate?*

PROBES:

Based on studies?

Based on policy?

### 3. *Should the illegal BAC for motorcyclists be reduced (to reflect the level at which rider skills are impaired)?*

PROBES: Why? Why not?

### 4. *A. What is the role of law enforcement in addressing impaired riding?*

*B. What is the role of the courts in addressing impaired riding?*

PROBES:

What could they be doing that they are not doing now?

What are they doing now that you would like to change?

Do you believe law enforcement officers and other officers of the court know the detection cues for impaired motorcycle riders? (e.g., swerving, speeding, riding slowly, running red lights or stop signs)

## Discuss Drinking and Riding Strategies.

### 5. *Do you believe that special programs are needed targeting riders rather than drivers?*

PROBES: Why? Why not?

**Go through the list of strategies and have them respond to each one.**

PROBES:

Special media campaigns? Y / N?

Special enforcement efforts? Y / N?

Different laws for motorcycle riders than drivers? Y / N?

Have these strategies worked?

Does the public support them?

Do your peer support them?



**6. *What are the barriers to implementing these strategies?***

PROBES:

- Resources?
- Interest Groups?
- Competing Priorities?
- Lack of knowledge of the problem?
- What else?**

**Roles of Various Players**

**7. *What are the roles of rider groups in addressing impaired riding?***

PROBES:

- What is your experience with these strategies?
- What could they be doing that they are not doing now?
- What are they doing now that you would like to change?
- Legislative advocacy in addressing impaired riding?
- Educating members about policy for group rides?
- Sanctions against breaking policy?
- Taking step to preventing drinking and riding?

**8. *What are the roles of rider training programs in addressing impaired riding?***

PROBES:

- What could they be doing that they are not doing now?
- What are they doing now that you would like to change?

**9. *What are the roles of State motorcycle safety programs/State highway safety offices in addressing impaired riding?***

PROBES:

- What are they doing now that you would like to change?
- What could they be doing that they are not doing now?
- Education?
- Advocacy?
- Policy/regulation?



***10. What are the roles of highway safety organizations in addressing impaired riding?***

PROBES:

What are they doing now that you would like to change?

What could they be doing that they are not doing now?

Summary of Strategies and Overcoming Barriers

***11. Based on all we've discussed and all that you know, what are effective strategies for reducing impaired motorcycle riding?***

***12. What are the barriers to implementing these strategies and reducing impaired riding?***

PROBES:

Political?

Economic?

Bureaucratic/administrative?

Knowledge/awareness gap?

Social norms?

Rider indifference?

***13. How can these barriers be overcome?***

Closing

- Summary
- Are there any final comments?
- Thank you for participating
- Distribute expense forms as appropriate.



## Appendix C.

# Moderator's Guide for Motorcycle Rider Groups

*Distribute the Participant Information form for completion before the session.*

“Please fill out both sides.”

### INTRODUCTION

- Moderator welcomes participants and introduces self and colleague.
  - Explain what the Pacific Institute is and that the National Highway Traffic Safety Administration is paying for the study and their participation
  - Explanation of project; purpose of group discussion.
  - Preview what will happen during the next 90 minutes, when they will be paid, etc.
  - We are interested in participants' views and experiences regarding drinking alcohol and riding motorcycles. There are no right or wrong answers.
  - Views will be kept confidential; no names will be used; we expect participants to keep what they hear during the focus group confidential as well.
  - We value the information you will share with us today and want to make sure we capture all of it. So we will be taping the session and taking notes. Is everyone okay with that?
- TURN ON RECORDER
- GROUND RULES: informal; 90 minutes; 5-minute break, but feel free at any time to get up (go to the bathroom, get a snack, etc.); would like only one person to talk at a time, but hope everyone will speak up; appreciate input; we would appreciate it if you turned your cell phone and pagers to the “vibrate” or “off” setting.
  - Any questions?
  - ICEBREAKER: Ask each participant to introduce himself with his first name only and tell us about your first motorcycle.



Discuss Riding Behaviors In General.

**1. When you ride, what are the usual circumstances?**

PROBES:

When and where do you usually ride to?  
Who do you typically ride with?  
Groups of friends?  
With a club?

**Why do you ride a motorcycle?**

**Probe: What do you get out of it?**

**Do you ever ride alone?**

**Probe: When?**

**What's important to you about riding alone?**

**In a group?**

**Probe: When?**

**What's important to you when riding in a group?**

**What's different from riding alone?**

**Do you go to motorcycle rallies?**

**Probe: When?**

**Which ones?**

**Is alcohol served at these events?**

**Is that important?**

**Have you ever seen a rider at a rally who has drunk too much to ride?**

**Probe: How did other riders react?**

What would you do if you thought someone was going to get hurt because of drinking and riding?

Discuss General Drinking Behaviors.

**2. When and where do you drink alcohol?**

PROBES:

What are the circumstances?  
Do you drink before you ride? Under what circumstances? Why?  
Do you drink while riding? Under what circumstances? Why?  
Do you drink before or while you're driving a car or truck? Under what circumstances? Why?  
Do you see drinking and riding as a problem?  
When others drink and ride, are you worried about your safety? Their safety?

Moderator's Caution: Keep the discussion away from "war stories" about drunks they have been on or drunks they have known.





### **BAC and Impairment**

**3. *What does the term “BAC” mean to you?***

PROBES:

- A legal definition?
- A safety level?
- How does BAC relate to a person’s ability to ride?
- How is BAC related to being drunk?
- How is being drunk related to ability to ride?

**4. *Do you think there should be a different legal “BAC” for motorcyclists?***

### Riders’ Experiences With Drinking and Riding

**5. *Do you or other folks you know ever find yourself [or a fellow rider] in a situation when you had drunk too much alcohol to ride?***

PROBES:

- How did you know?
- What were the circumstances?
- Who were you with?
- Where were you?
- How did you get there?
- How did you get home?

**6. *How does alcohol affect you and your ability to ride a motorcycle?***

PROBES:

- Do you do anything different when you’ve been drinking?
- What? When? How?

**7. *Do you ride better or worse?***

PROBES:

- How do you know?

**8. *If you know you’re going to be drinking, are you more likely to drive a car rather than ride a motorcycle.***

PROBES:

- Why?
- Do you feel you’re safer driving than riding after drinking?
- Do you drive your car or truck after drinking? Once in a while? Ever?



## Strategies to Reduce Drinking and Riding

### 9. Does anyone have experience with drinking and riding?

#### PROBES:

In the past, what circumstances have led you to drinking and riding?

Did you plan it?

How did it happen?

How often does this happen?

### 10. How have you avoided drinking and riding?

#### PROBES:

Take a taxi home?

Intervention by a friend?

Slept it off at a friend's house or motel/hotel?

Called a friend with a truck or a van?

Abstained from drinking?

Avoided riding and drinking in some other way?

Intervention	Would it work for you?
<i>Take a taxi home?</i>	<input type="checkbox"/> Y <input type="checkbox"/> N
<i>Sleep it off at a friend's house or motel/hotel?</i>	<input type="checkbox"/> Y <input type="checkbox"/> N
<i>Called a friend with a truck or van?</i>	<input type="checkbox"/> Y <input type="checkbox"/> N
<i>Abstain from drinking?</i>	<input type="checkbox"/> Y <input type="checkbox"/> N
<i>Avoid riding and drinking in some other way?</i>	<input type="checkbox"/> Y <input type="checkbox"/> N
<i>(Describe in a few words)</i> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	

Do these approaches differ from those targeting drivers?



***11. Have you ever tried to prevent someone else from drinking and riding?***

**PROBES:**

What were the circumstances? Who? When? Where?

Why? How much had they drunk?

How did you try to stop them?

Take your friends' keys?

Tampered with ignition wires?

Provided them somewhere to sleep it off?

Called a friend with a truck or van?

Avoid riding and drinking in some other way?

Did it work?

Would you be receptive if some one used the same approach with you?

Could others do the same thing?

Can you do this in a group situation?

***12. When you drink and ride, do you typically make a conscious decision to drink and ride or does it just happen?***

***13. At what point is it best to take steps to avoid drinking and riding?***

**PROBES:**

Before you start riding to a possible drinking location?

Before you start to drink?

Before you start to ride after drinking?



## Regulatory Matters

**14. There are penalties for drinking and riding. What penalties can you think of that are most likely to prevent you from drinking and riding?**

Increased fines?

Increased jail time?

Loss of license?

Motorcycle impoundment?

Increased law enforcement?

Intervention	Would it make a difference?	
<i>Increased fines?</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N
<i>Increased jail time?</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N
<i>Loss of license?</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N
<i>Motorcycle impoundment?</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N
<i>Increased law enforcement?</i>	<input type="checkbox"/> Y	<input type="checkbox"/> N

Do these approaches differ from those targeting drivers? If so, how?

**15. Who should be involved in regulating drinking and riding?**

PROBES:

List of organizations. Why? Why Not?

**16. How do you feel about enforcement of laws regulating drinking and riding?**

PROBES:

In what situation is it:

Too weak?

Too strong? (Regarding the enforcement of laws)

Just right?

## Summary and Closing

- Summary
- Are there any final comments?
- Thank you for participating.
- Distribute cash envelopes; have them sign receipt.

DOT HS 809 490  
February 2003