# Cellular Phones and Highway Safety

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# FOREWORD

This report on cellular phone use and vehicle control is submitted in response to House Resolution No. 377, H.D. 1, adopted during the 1992 Regular Session.

The Bureau acknowledges and extends its appreciation to those individuals who responded to our inquiries in seeking what documentation there currently exists in this emerging area of telecommunications.

Samuel B. K. Chang
Director

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# Chapter 1

# INTRODUCTION

During the 1992 Legislative Session the House of Representatives adopted House Resolution No. 377, H.D. 1, entitled "House Resolution Relating to Highway Safety," (See Appendix A) which requested the Legislative Reference Bureau to conduct a study on the effect of cellular phone use upon vehicle control and driver attention in Hawaii.

## Organization of the Report

The report is organized into five chapters. Chapter 2 reviews the growth of the cellular industry and the increase in the use of cellular phones since their introduction.

Chapter 3 reviews the various studies which have been conducted on the effect of cellular phone use upon vehicle control and driver attention.

Chapter 4 reviews methods to minimize the risk of using cellular phones while driving including legislative proposals both in Hawaii and states in which laws relating to cellular phone use while driving have been enacted or proposed. It also discusses steps which have been taken, especially by cellular phone manufacturers and suppliers, in an effort to minimize the risk of using a cellular phone while driving.

Chapter 5 presents suggestions for further information and measures which could lower the risk of driving while using a cellular phone.

No distinction is made in this report between cellular phones which are carried with a person and cellular phones which are mounted in a car except as far as placement in the car affects safety. They are both mobile and both cellular. None of the studies differentiated between the two. The phrase "cellular phone" is used throughout this report except that in discussing each study the phrase used by the authors of the study was used.

# Chapter 2

# THE CELLULAR PHONE INDUSTRY

## Introduction

Since their introduction in Chicago in October of 1983[1] cellular phones have rapidly become an important business tool and are currently becoming more common for personal use. Initially, cellular phones were used strictly as a business tool, mostly by real estate agents, contractors, sales people, and business executives.[2] Today, however, they are much more commonly used for a variety of reasons with the growing realization that they can make life safer, less stressful, and more productive.[3] In areas where long commutes are common, a cellular phone allows this time to be used for business or other needs, not only increasing efficiency in the use of time but lowering stress by allowing the driver to focus on something other than the traffic jam.

Public demand and the resultant growth of the industry have brought about technological advances. They have also focused attention on safety issues.

## New Technology

Because early cellular phones were costly and had few options, they were limited to specific business use. Each year since their introduction there has been an improvement in cellular technology and a lowering of the price of the system. Today, they are used not only to carry on business while commuting or travelling to appointments but also to report emergency conditions on the roads and to make personal phone calls. Cellular phones can now be installed at a more reasonable cost and have many options available such as hands free options, memory dialing, and voice activated systems. A built-in answering machine is also available as are portable facsimile and copying machines that plug directly into cellular phones.[4]

## The Growth of the Cellular Industry

The growth of the cellular industry has frequently exceeded estimates. A 1985 article reported that AT&T estimated there were 100,000 cellular phones in use in 1985 and projected that one million would be in use by 1990.[5] An article published in the March/April 1991 issue of Traffic Safety estimated that there were 2.1 million subscribers (i.e., cellular phone users) in 1989 and that the number would be just over five million by beginning of 1991.[6] Further, according to the Cellular Telecommunications Industry Association, which represents 95 percent of national cellular subscribers, there were already 3.5 million subscribers by the end of 1989, 5.3 million subscribers by the end of 1990; and the industry has continued its rapid growth adding 1.3 million new users during the first half of 1992,

bringing the total number of national subscribers to 8.9 million.[7] This was the largest increase ever in subscribers in a sixth month period and equated to a nearly 40 percent annual growth rate. This growth rate also created about 4250 new jobs.[8] (See Exhibits 1, 2, and 3)

It has been estimated that by 1998 there will be over 30 million subscribers[9] and estimates by Herschel Shosteck Associates, international telecommunications economists and market research analysts specializing in the study of the cellular telephone industry, predict that there will be 16.4 million to 19.8 million cellular phones in use by 1995; 29 million to 37 million by the turn of the century; and 41.5 million to 54.5 million by 2005.[10]

During this dramatic rise in the number of subscribers, the cost to subscribers has continuously gone down. In the beginning of 1983 the cost of a cellular telephone was $2,628. By the end of 1989 the price was only $515. Taking into account the cost of cellular service and the effect of inflation the true monthly costs for a subscriber fell from $229 to $110 from 1983 to 1989.[11] (See also Exhibit 4)

The rise in popularity coupled with the lowering of costs means that a greater percentage of drivers on the road have cellular phone capability whether built into the car or not. This in turn means that more people are using cellular phones while driving and, if there is a negative safety factor, it is increasing.

## Safety Issues

With this rapid growth of the industry, questions have been raised about the safety of using cellular phones while driving and measures that can be taken to make their use safer. One author pointed out that even though strides are being made to alert the public of the possible dangers, they are not keeping pace with the growth of the field the and need for early action.[12]

While few studies exist on the possible dangers involved with driving while using a cellular phone,[13] anecdotal evidence abounds. Many, including state legislators, have witnessed examples of dangerous driving related to cellular phone use.[14,15] Subsequent chapters of this study discuss possible driving hazards associated with talking on a cellular phone or dialing a number while driving.

On the other side of the dangers which might be compounded by the use of cellular phones while driving are the many positive safety factors which have arisen with the increased availability of these phones. Not only are cellular phones a direct aid to the driver who might get into trouble on the road, by providing easy access to emergency help, but cellular phone users frequently report emergency road conditions, and police departments are beginning to involve them in reporting suspected drunk drivers. As of July 1991, eighteen states had established special phone numbers to call to report drivers who are weaving or otherwise appearing to act under the influence of alcohol.[16] A spokesperson for the

Maryland State Police also pointed out that the knowledge that such phone numbers exist and that the police are actively enlisting the aid of cellular phone users "provides a deterrence for citizens to know that if a car has a cellular phone, that potentially can be the eyes and ears of the police."[17]

Additionally, cellular phones provided needed communications assistance following Hurricane Hugo in South Carolina and the Northern California earthquake,[18] and most recently following Hurricane Iniki which devastated Kauai. Individual users have also provided a link to emergency services for others in danger and have even saved lives.[19]

## Exhibit 1

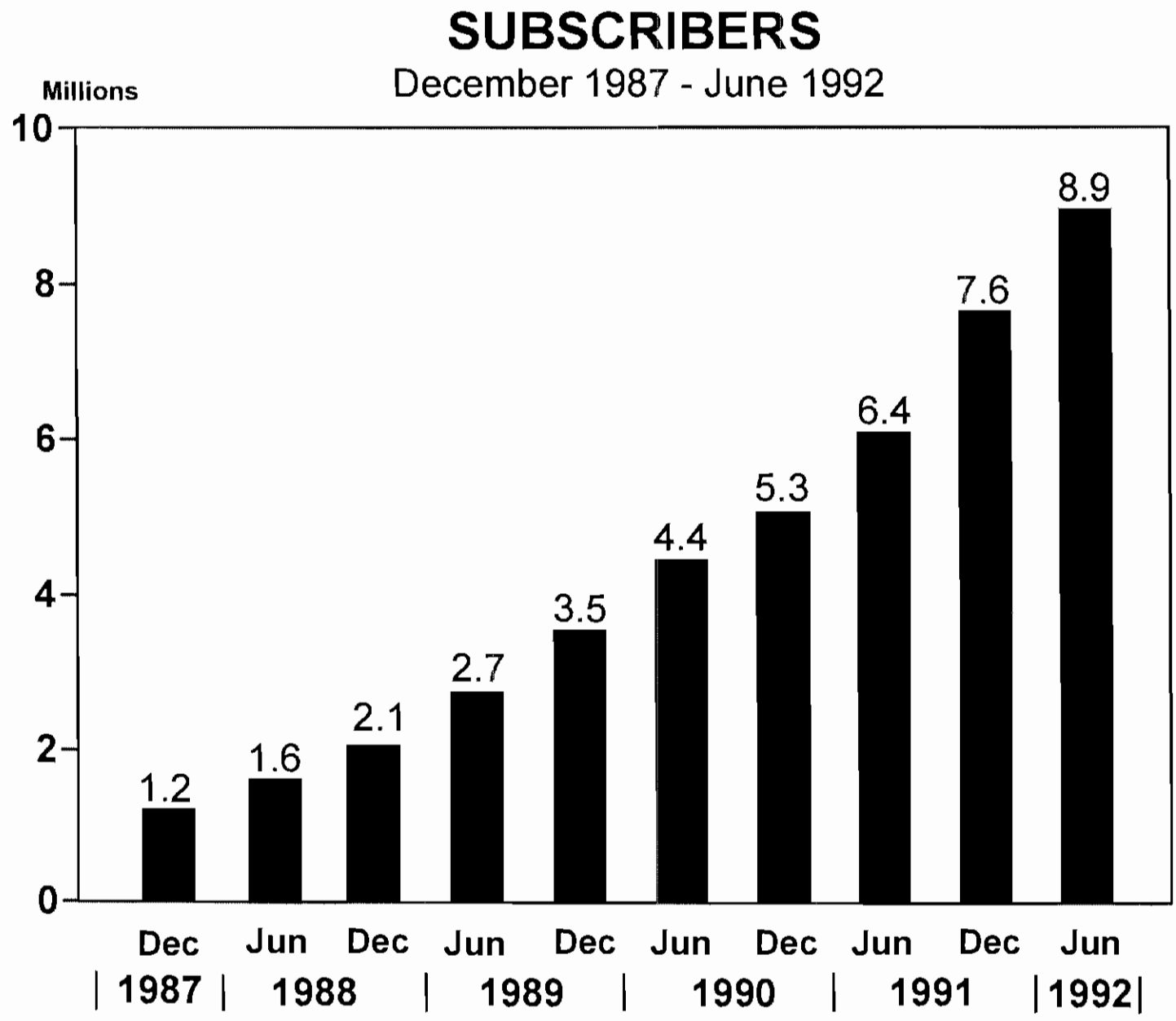
## HISTORY OF CELLULAR PHONE GROWTH

| Date | Subscribers | 6-month Revenues | Receiver Revenues | Cell Sites | Employees | Cumulative Capital Investment | Number of Systems | Average Monthly Bill | Average Call Length (in Minutes) |
|---|---|---|---|---|---|---|---|---|---|
| Dec. 1984 | 91,600 | $178,085,000 | | 346 | 1,404 | $354,760,500 | 32 | | |
| June 1985 | 203,600 | $176,231,000 | | 599 | 1,697 | $588,751,000 | 65 | | |
| Dec. 1985 | 340,213 | $306,197,000 | | 913 | 2,727 | $911,167,000 | 102 | | |
| June 1986 | 500,000 | $360,197,000 | | 1,194 | 3,556 | $1,140,163,000 | 129 | | |
| Dec. 1986 | 681,825 | $462,467,000 | | 1,531 | 4,334 | $1,436,753,000 | 166 | | |
| June 1987 | 883,778 | $479,514,000 | | 1,732 | 5,656 | $1,724,348,000 | 206 | | |
| Dec. 1987 | 1,230,855 | $672,005,000 | | 2,305 | 7,147 | $2,234,635,000 | 312 | $96.83 | 2.33 |
| June 1988 | 1,608,697 | $886,075,000 | | 2,789 | 9,154 | $2,589,589,000 | 420 | $95.00 | 2.25 |
| Dec. 1988 | 2,069,441 | $1,073,473,000 | $89,331,000 | 3,209 | 11,400 | $3,274,105,000 | 517 | $98.02 | 2.26 |
| June 1989 | 2,691,793 | $1,406,463,000 | $121,368,000 | 3,577 | 13,719 | $3,675,473,000 | 559 | $85.52 | 2.35 |
| Dec. 1989 | 3,508,944 | $1,934,132,000 | $173,199,000 | 4,169 | 15,927 | $4,480,141,752 | 584 | $89.30 | 2.48 |
| June 1990 | 4,368,686 | $2,126,362,000 | $192,350,000 | 4,768 | 18,973 | $5,211,765,025 | 592 | $83.94 | 2.32 |
| Dec. 1990 | 5,283,055 | $2,422,458,000 | $263,660,000 | 5,616 | 21,382 | $6,281,596,000 | 751 | $80.90 | 2.20 |
| June 1991 | 6,390,053 | $2,653,505,000 | $302,329,000 | 6,685 | 25,545 | $7,429,739,000 | 1,029 | $74.56 | 2.37 |
| Dec. 1991 | 7,557,148 | $3,055,017,000 | $401,325,000 | 7,847 | 26,327 | $8,671,544,000 | 1,252 | $72.74 | 2.38 |
| June 1992 | 8,892,535 | $3,633,285,000 | $436,725,000 | 8,901 | 30,595 | $9 + Billion | 1,483 | $68.51 | 2.38 |

Source: Cellular Telecommunications Industry Association

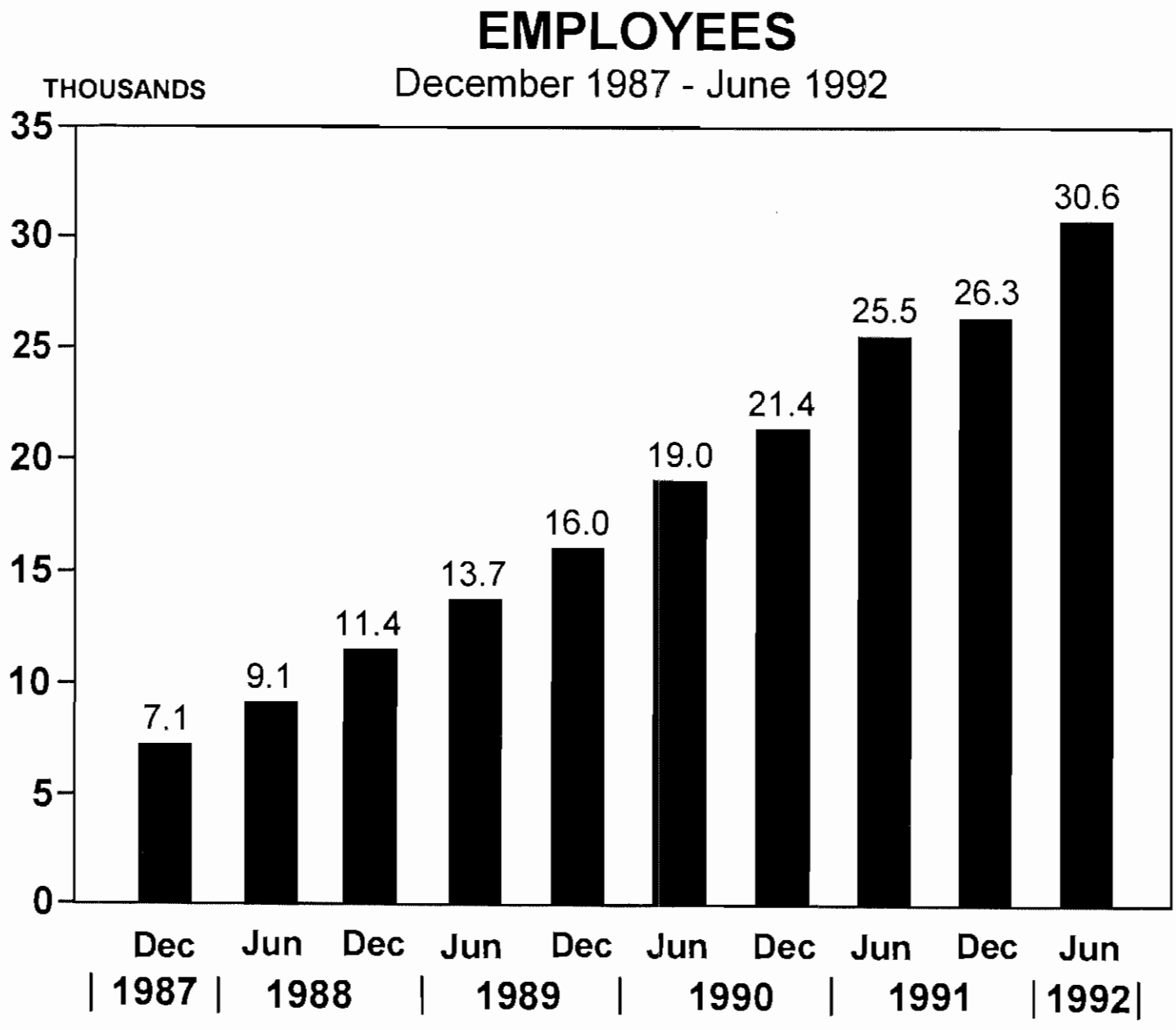
Exhibit 2

GROWTH IN NUMBER CELLULAR TELEPHONE SUBSCRIBERS




Source: Cellular Telecommunications Industry Association

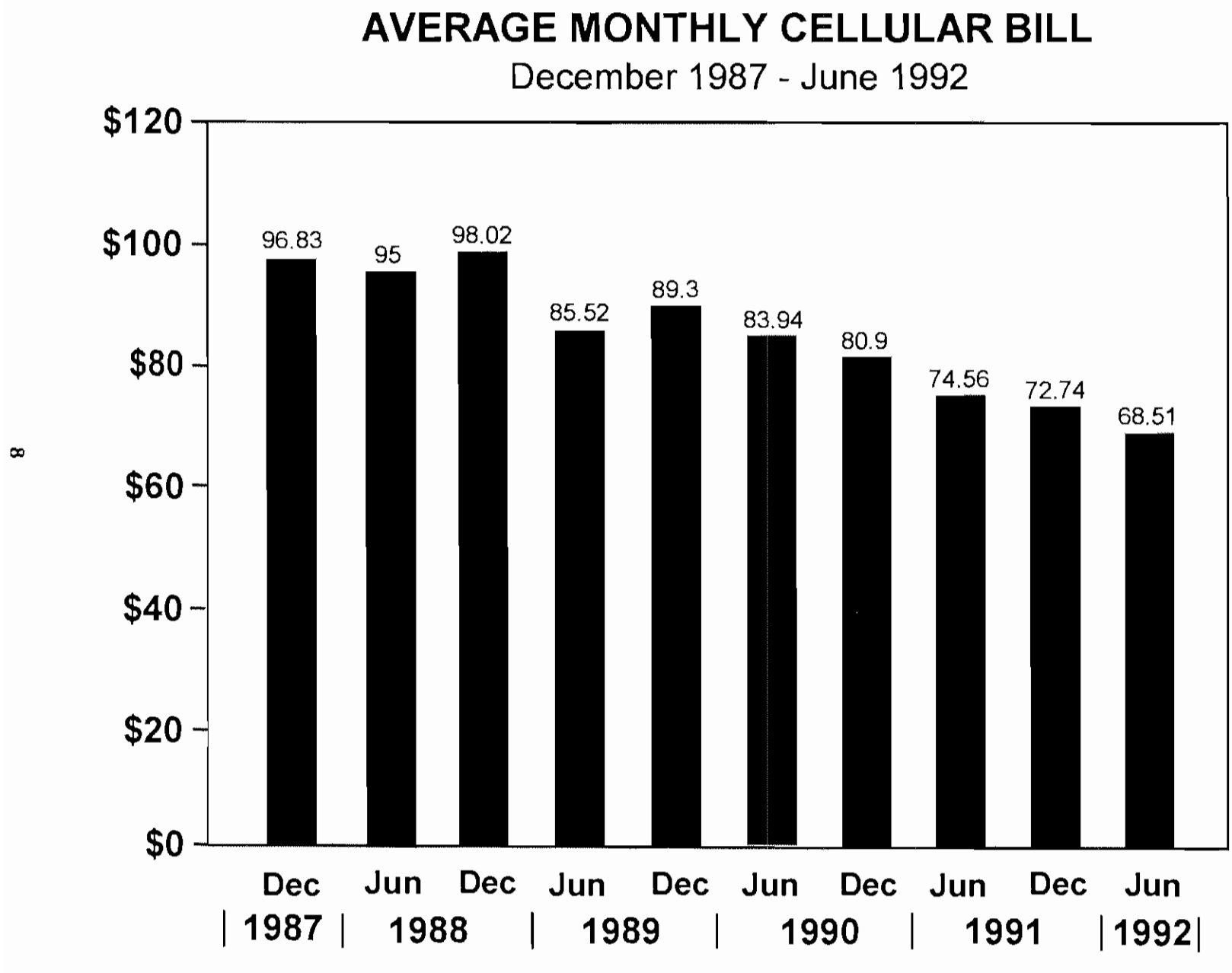
Exhibit 3
GROWTH IN NUMBER CELLULAR TELEPHONE
INDUSTRY EMPLOYEES




Source: Cellular Telecommunications Industry Association

Exhibit 4

DECREASE IN AVERAGE MONTHLY CELLULAR BILLS




Source: Cellular Telecommunications Industry Association

## ENDNOTES


1. "Going places with a car phone." Changing Times. November 1985, p. 39-41, 39.

2. Ibid., p. 41.

3. "Cellular Spurts 17.7% during 1st Half of 1992," Cellular Telecommunications Industry Association News Release. September 8, 1992. p. 1.

4. Ruth Hamel, "Living in traffic: As congestion worsen, more L.A. commuters turn their cars into homes and offices," American Demographics, March 1989, pp. 49-51.

5. Lad Kuzela, "Mobile phones unsafe? Suppliers trying to head off legislation." Industry Week, June 19, 1985, p. 32-34.

6. Thomas Frisbie, "Talking Mobile." Traffic Safety, Mar./Apr., 1991, p. 26-28.

7. CTIA News Release, p. 1.

8. Ibid., p. 1.

9. John Trinkaus, "Usage of cellular telephones: an informal look." Perceptual and Motor Skills, December 1990, Part 2, pp. 1375-1376.

10. Robert Dvorchak, "America hung-up on cellular phones: The industry is now growing by beeps and bounds," Honolulu Advertiser, May 26, 1992. p. A-6.

11. Shosteck, Herschel, "Price and Demand -- The factors affecting growth of the cellular market," Fourth Nordic Seminar on Digital Mobile Radio Communications DMR IV, June 26-28, 1990. Oslo, Norway.

12. Trinkaus, p. 1376.

13. James A. McKnight and A. Scott McKnight, "The effect of cellular phone use upon driver attention," National Public Services Research Institute. January 1991, p. 1.

14. Frisbie, p. 26.

15. Richard Tapscott, "Car phone measure gets hung up: No evidence offered to support Md. proposal's concern for safety," Washington Post, January 22, 1992. p. D3.

16. Insurance Information Institute. "Car Phones Help Police Catch Drunk Drivers," III Consumer News, July 25, 1991, p. 3.

17. Ibid., p. 2.

18. Gregory Jordahl, "Like a Rolling Phone," Insurance Review, May 1991, pp. 45, 46.

19. Cellular Telecommunications Industry Association, CTIA Safety Manual, 1992, p. 23.

## Chapter 3

## REVIEW OF STUDIES ON DRIVER ATTENTION

No studies on the relation of cellular phone use to driving safety have been done which relate specifically to Hawaii. According to Captain Robert Prasser, Honolulu Police Department, data on cellular phones are not an integral part of accident reports and are only included in the unusual instance where it appears the cellular phone may have played some part in the accident.[1]

While information on the safety of cellular phone use in Hawaii is not available, a number of studies have been done in other jurisdictions. These are reviewed below in chronological order of publication. A 1988 study is included last but, because it was written in Finnish, a complete review was not possible at this time.

### California Highway Patrol[2]

The first comprehensive study on mobile telephone safety was done in March 1987 by the Department of California Highway Patrol in response to a California Senate Concurrent Resolution.

The objectives of this study included, among others, the gathering of information on:

(1) The safest methods for the use of mobile telephones; and

(2) The safety benefits being realized by owners of mobile phones and the general public.[3]

Driver performance was tested using an interactive driving simulator programmed to simulate urban commute traffic. Seventy-five subjects were asked to negotiate a fifteen-mile simulated route containing curves, unexpected obstacles, and various road signs requiring driver response. During the test, drivers were required to make and receive phone calls and perform other tasks such as tuning a radio.[4]

The results of this part of the study indicate that:

(1) As a driver's age increases, tasks which compete for attention may impair driving ability;

(2) Manually dialing a ten-digit number can substantially increase the risk of accident more so than tuning a radio. Answering incoming calls, memory dialing, and voice-activated dialing present less hazard than tuning a radio;

(3) Proper location of the phone can affect the probability of an accident. Dash mounted phones reduced by more than 50 percent the chance of accident involvement. Center console mounting was the most dangerous;

(4) Handsfree operation improved safety;

(5) Lack of experience in using a mobile phone has little effect on the ability to use it safely.[5]

Based on the data gathered in this study, the authors made the following recommendations:

(1) Phones should be mounted in locations which are as close to the driver's line of sight as practical;

(2) Use of voice-recognition dialing technology should be encouraged;

(3) The memory dialing capability of the phone should be used -- BUT drivers should be instructed NOT to refer to memory location lists while driving; and

(4) Drivers should be warned that manually dialing phone numbers may place them at greater risk of accident involvement. They should be encouraged to take several precautions whenever manual dialing is necessary. These include:

(a) Waiting until they stop at a traffic light or stop sign to dial the numbers;

(b) Pulling off the road to dial the number -- IF leaving and reentering the traffic stream can be accomplished safely;

(c) Where possible, entering the number to be called in the phone's memory before leaving one's parking place. The call can then be initiated en route merely by pushing the "send" button; or

(d) Dialing no more than two or three numbers at a time while driving, and returning to the dialing task only after attending to driving duties.[6]

The report also noted safety benefits and included a detailed investigation into emergency reports which originated from mobile phones. The primary safety benefit found was the use of mobile phones to report emergency situations. Comparatively few mobile phones accounted for many emergency calls and accident reports. Other safety benefits found include:

(1) Stress reduction from "late arrival" calls made while stuck in traffic;

(2) Emergency uses outside the traffic network;

(3) Personal security in the event of a breakdown or other emergency;

(4) Alertness aid to help fight driving boredom; and

(5) Additional links in the communications network joining doctors, nurses, and firefighters.[7]

In a final note, comparing the number of accident, roadway hazard, fire, and drunk and reckless driving reports made by cellular users, the authors stated that, "If these calls save as little as two or three lives a year, they would offset the cost of a 10 percent increase in accidents among phone users."[8] No report has even remotely suggested anywhere close to a 10 percent increase in accidents among phone users.

**Alm and Nilsson; October 1990**[9]

This Swedish study proposed to continue the work reported in earlier studied including the California Highway Patrol study discussed above.[10] Specifically, it looked at whether mobile telephone conversations have any effect on:

(1) The ability of a driver to quickly detect an object in a traffic environment;

(2) The ability of a driver to monitor and adjust the performance of the vehicle; and

(3) The driver's workload; and

whether there is an effect of the difficulty of the driving task on the drivers' ability to perform telephone conversations.[11]

The study was carried out using forty experienced drivers and a driving simulator.[12] Each subject was requested to "drive" an eighty kilometer test route.[13] Variables analyzed included reaction to simulated danger, lateral position of the car on the road in connection to the telephone call, workload and speed, and driving task complexity.[14]

The authors found that even simple driving tasks could be affected by a telephone conversation. In fact, they found that the longest reaction time occurred when the driving task was simple. It was suggested that this was because when the driving task was simple, an experienced driver *might* not feel the need to apply great concentration on it and would instead concentrate more on the telephone conversation.[15] Lateral position of the car, more pronounced when the driving task was difficult, was not great enough to cause a car to leave

the correct lane, and therefore was not felt to be a danger.[16] The study also showed a reduction in speed but only during the easier driving tasks.[17]

**McKnight; January 1991**[18]

In 1990, a study was undertaken by the National Public Services Research Institute under a grant from the AAA Foundation for Traffic Safety, a nonprofit educational foundation which provides grants to fund research on traffic safety. The purpose of this study was to "assess the effect of telephone use upon the driver's ability to meet the perceptual and cognitive demands of the highway traffic environment."[19] The authors specifically were looking at:

(1) What effect placing calls and carrying on conversations had on perceptually- and cognitively-mediated responses to highway-traffic situations;

(2) How these effects relate to the complexity of the conversation and the driver's age; and

(3) How these effects vary across highway traffic situations.[20]

A driving simulator and a prerecorded video series of scenes taken through the windshield of a moving car and played back on a 50 inch rear-projection television[21] were used to test five conditions:

(1) No distraction;

(2) Placing a call;

(3) Casual conversation;

(4) Intense conversation; and

(5) Tuning a radio.[22]

Distraction responses to these conditions was measured by comparing vehicle control responses, adjusting speed and/or direction, to simulated highway traffic safety scenes.[23] One hundred fifty-one subjects divided into three age groups were tested.[24]

The authors reached the following conclusions:

(1) All forms of cellular phone usage lead to a significant increase in the establishment of non-response to highway traffic situations and increase in time to respond;

(2) Complex, intense conversation leads to the greatest increases in likelihood of overlooking significant highway traffic conditions, and the time to respond to them. The distracting effect is similar to that of tuning a radio. The effect of placing calls or engaging in causal conversation is less of a problem, although, calling tends to retard responses;

(3) The distracting effect of cellular phone use among drivers over age fifty is two- to three-times as great as that of younger drivers and encompasses all three aspects of cellular phone use -- placing calls and carrying on simple and complex conversations. The effect is to increase non-response by 33-38 percent; and

(4) Prior experience with cellular phones appears to bear no relation to the distracting effect of cellular phone use.[25]

Based on the study, it was recommended that all cellular phone users should be advised not to engage in intense phone conversations while the vehicle is moving. It was also recommended that, since performance was adversely affected by age for those subjects in the group over fifty years of age that perhaps older drivers should not use the cellular phone while the vehicle is in motion. They did not specify to what age range this should apply.[26]

**Brookhuis; February 1991**[27]

The primary objective of this study was to compare the effects of operating handheld and handsfree mobile phones in light traffic, heavy traffic, and city traffic. Measurements were based on heart-rate variability, changes in steering wheel movement, lane-keeping ability, and the ability to follow a car in front. Only twelve subjects were used. The tests were conducted in a car modified with various measuring devices. For three weeks each subject drove the car for one hour per day.[28]

It was found generally that telephoning while driving has little or no effect on driving ability. The study even indicated that perhaps using the phone had an alerting effect on a quiet road. However, one major exception to this was dialing a number manually which had a substantial effect on steering. The authors compared the consequences of this to traffic safety as similar to tuning a radio while driving.[29]

The report concludes that because in some circumstances the operation of a mobile telephone may decrease traffic safety, it strongly recommends that only handsfree mobile telephones be allowed and preferably those equipped with a voice-activated dialing system. It also recommends that during a mobile telephone conversation ample distance be kept from other traffic and the car be driven in the slower traffic lanes and at a moderate speed.[30]

**Nilsson and Alm; March 1991**[31]

This study focused on what influence the use of a handsfree mobile telephone had on the behavior of drivers sixty years of age and older. It looked at four types of influence which use of a mobile telephone might have:

(1) Ability to react quickly to an object in the traffic environment;

(2) Ability to monitor and adjust the performance of the car;

(3) Influence on the driver's workload; and

(4) Influence on the driver's choice of speed.

The study also compared the difference between young drivers' behavior to that of older drivers.[32]

The authors found that for older drivers age had a negative impact on ability to react quickly to a suddenly appearing event and older drivers' reactions were slower than those of younger drivers. When older drivers used mobile telephones, they were found to be more apt to swerve slightly than younger drivers; rated their workload higher; and were more apt to lower their speed.[33]

No recommendations were given.

**Mikkonen and Backman; 1988**[34]

Finally, one other study should be mentioned. It was published by the Department of Psychology of the University of Helsinki in 1988. Unfortunately, the report was in Finnish and it was not possible to obtain a translation in the time provided for this report. However, an abstract written in English[35] states that the results indicated that while driving and using a cellular phone:

(1) Driving time is longer for those less experienced in using a car phone;

(2) All drivers performed the telephone tasks "appropriately" with inexperienced users "only slightly worse";

(3) Inexperienced phone users thought that use of the car phone affected their driving and increased risk, while experienced phone users thought that use of the car phone had little effect and no added risk;

(4) The experimenter thought the risk to be greater in city traffic and greater for inexperienced telephone users;

(5) Driving habits changed when the car phone was used -- most noticeably brake use decreased; and

(6) Change in driving habits varied considerably among individuals with some individuals increasing the use of controls -- most noticeably the brakes.

The authors interpreted these results to indicate that driving performance, while individually varied, improves while the driver is using a cellular phone. Drivers increase their alertness and thus anticipation in driving, decreasing the need to use the brake. However, they pointed out that individual drivers may show an increased risk with car phone use.

The authors summed up their findings, including looking at the benefits of increased car phones, by stating that, "In the long run safety could, however, even improve if some easily implemented measures are introduced at the same time." Unfortunately, these "easily implemented measures" are not outlined in the abstract but are found in the body of the report in Finnish.

## ENDNOTES

1. Thomas Frisbie, "Talking Mobile," Traffic Safety, Mar./Apr., 1991, p. 26-28, p. 27.
2. California, Department of Highway Patrol, Mobile Telephone Safety Study, March, 1988.
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4. Ibid., p. 2-1.
5. Ibid., pp. 2-33 to 2-34.
6. Ibid., pp. 2-34 to 2-35.
7. Ibid., p. 7-2.
8. Ibid., p. 7-5.
9. Håkan Alm and Lena Nilsson, "Changes in driver behavior as a function of handsfree mobile telephones; A simulator study," DRIVE Project V1017 Report No. 47, Swedish Road and Traffic Research Institute, Linköping Sweden, October 1990.
10. Ibid., p. 3.
11. Ibid., p. 4.
12. Ibid., p. 6.

13. Ibid., p. 8.

14. Ibid., p. 14.

15. Ibid., p. 23.

16. Ibid., p. 24.

17. Ibid., p. 27.

18. James A. McKnight and A. Scott McKnight, "The Effect of Cellular Phone Use Upon Driver Attention," National Public Services Research Institute, January 1991.

19. Ibid., p. 3.

20. Ibid.

21. Ibid., p. 9.

22. Ibid., pp. 4-5.

23. Ibid., p. 5.

24. Ibid., p. 7.

25. Ibid., p. 21.

26. Ibid., p. 20.

27. Karel A. Brookhuis, Gerbrand de Vries and Dick de Waard, "The Effects of Mobile Telephoning on Driving Performance," Accident Analysis and Pevention, February, 1991, pp. 309-316.

28. Ibid., pp. 310-311.

29. Ibid., p. 314.

30. Ibid., p. 315.

31. Lena Nilsson and Håkan Alm, "Effects of Mobile Telephone Use on Elderly Drivers' Behavior - Including Comparisons to Young Drivers' Behavior," DRIVE Project V1017 Report No. 53, Swedish Road and Traffic Research Institute, Linköping Sweden, March 1991.

32. Ibid., p. 3.

33. Ibid., pp. 28-29.

34. Valde Mikkonen and Martin Backman, Autopuhelimen Käyttö Ajon Aikana. University of Helsinki, Department of Psychology, Technical Report No. A39 (Helsinki, 1988).

35. Ibid., p. 4.

# Chapter 4

# MINIMIZING THE RISK

## Introduction

In relation to the rapid growth in the industry, opinions vary on whether enough has been done by the cellular phone industry to improve driving safety. This may be because most sources recognize a safety problem in the use of cellular phones, but differ on how extensive a problem it is to drivers. There is general agreement that dialing while driving is hazardous; but, based on the findings of the various studies reviewed in Chapter 3, it would appear that talking on a cellular phone may be no more distracting than talking to a passenger or tuning a radio. The latter, however, is not conclusive. McKnight states that, "what a cellular phone can do is bring into the vehicle conversations that are more frequent and more likely to be intense than those that would occur with passengers.... It seems very likely that introduction of a cellular phone brings about a significant increase in the likelihood of intense phone conversations."[1] If talking presents a problem, it appears to be slight.

Legislative control has been suggested as one method of addressing the risk of cellular phone use while driving. In 1985, an article in Industry Week stated that manufacturers of cellular mobile telephones were stepping up their development efforts on voice activated systems "because of the possibility of legislation that would regulate cellular phones for safety reasons.[2] As reviewed below, there are few laws today, seven years later, relating to the safety of cellular phone use and none which relate to voice activated systems.

Instead of direct legislative control, safety issues can be addressed through education. This has been done to a great extent by the cellular industry and continues through the use of newsletters highlighting safety concerns and other educational measures such as National Cellular Safety Week.

## Hawaii's Legislative Response

The only formal legislative response to cellular phones and highway safety to date is the passage of House Resolution No. 377, H.D. 1, which requested this study. Testimony on the resolution was generally in favor of a study. (See Appendix B for copies of testimony submitted). Testimony of the Honolulu Police Department, presented by a captain of the Traffic Division, stated that Hawaii has one of the highest percentages of cellular phone use in the nation. Dineh Davis, Assistant Professor in the Department of Communication of the University of Hawaii Communication College of Social Sciences, favored a study before regulating the industry. The Hawaii Insurers Council also supported the resolution.

Only GTE Mobil Communications and the Hawaii Department of Transportation did not support adoption of the resolution. The Manager of Regulatory and Legislative Affairs for GTE Mobile Communications called the resolution "an unwarranted, unnecessary intrusion on the rights of Hawaii's citizenry" arguing that the use of a cellular phone was no more a safety hazard than any number of other distractions. The Department of Transportation recommended further action be deferred because of the State's budgetary constraints.

## Legislative Response in Other States

In reviewing current state statutes, only two, Georgia and Massachusetts, referred to mobile or car phones in general in relation to safety considerations for all motor vehicles. The Georgia statute reads as follows:

> **§40-6-241 Driver to use due care; proper use of radio or mobile telephone not violate section.**
>
> A driver shall exercise due care in operating a motor vehicle on the highways of the state and shall not engage in any actions which shall distract such driver from the safe operation of such vehicle, provided that the proper use of a radio, citizens band radio, or mobile telephone shall not be a violation of this Code section.[3]

The Massachusetts statute reads as follows:

> **13. Safety precautions for proper operation and parking of vehicles and buses.**
>
> No person, when operating a motor vehicle, shall permit to be on or in the vehicle or on or about his person anything which may interfere with or impede the proper operation of the vehicle or any equipment by which the vehicle is operated or controlled, except that a person may operate a motor vehicle while using a citizens band radio or mobile telephone as long as one hand remains on the steering wheel at all times.[4]

Neither of these statutes addresses the specific safety questions surrounding use of cellular phones. They merely emphasize the requirement for proper use of the mobile telephone and motor vehicle.

In addition, California legislation, effective in 1987, only addresses cellular radio telephones in rental cars:

> **Vehicle Code 28090. Rented vehicles; instructions for operation of cellular telephones.**
>
> Every renter of a motor vehicle with cellular radio telephone equipment shall provide the person who rents the motor vehicle with written operating instructions concerning the safe use of the equipment. The equipment shall also be clearly labeled with operating instructions concerning the safe use of the equipment.[5]

The California statutes also prohibit cellular companies from charging for emergency "911" calls.[6]

Legislation has been introduced in other states with no success. Minnesota State Senator Ronald Dicklich has introduced a bill every year since 1988 to ban the use of handheld cellular phones on the highway. However, none has passed. "Once the bill was introduced, lobbyists for the cellular telephone industry were here contacting legislators. They brought people from outside of the state and did everything that lobbyists do," one of Dicklich's legislative assistants was quoted as saying.[7]

Legislation has also been introduced in Massachusetts to require hands-free capability and voice activation which would obviate the need for the driver to do anything but speak to initiate a call, converse, and end a call;[8] and in Maryland to require mobile phones to have speakers and one-button dialing.[9] (See Appendix C for a copy of the Maryland bill)

### Educational Programs and Information

In response to their 1987 "Mobile Telephone Safety Study," the California Highway Patrol published a folder entitled, "Cellular Mobile Telephone Safety Tips." (See Appendix D) This handout recommends:

(1) Taking time to become familiar with the equipment, placing it "within comfortable reach in your usual driving posture, and as close to your line of vision as possible," and practicing using it while the car is stationary;

(2) Using the memory dial function by programming frequently called numbers as well as making a list of calls to be made during a particular driving trip and programming those numbers ahead of time;

(3) Gearing use of the phone to traffic conditions -- if conditions aren't good, wait until they improve before making calls;

(4) "If possible, dial while the car is not in motion, such as at a traffic light or stop sign. Learn how to operate the phone without looking at it. If a number is not programmed into memory and all the digits must be entered, dial in short segments; enter one or two numbers, check the traffic, then dial one or two more";

(5) Use common sense. "Try to stay in the slow lane so that if a conversation becomes intense, you can pull to the shoulder if it is safe to do so. While talking, keep your head up and your eyes on the road, with frequent checks of side and rearview mirrors";

(6) "Do not take notes or look up phone numbers while driving. If necessary, dictate notes into a small tape recorder. If you must check information, arrange to call back and do your research while the car is safely stopped."

The handout also includes detailed instructions for reporting "911" emergencies, and a seat belt reminder.

The cellular industry acknowledges the possible danger of dialing many digits while driving or having a heated discussion while in traffic. As early as 1985 insurance companies, AAA, and the owners' manuals that came with some cellular phones recommended pulling off the road to talk.[10] However, spokespersons for the cellular industry argued that pulling to the side could be equally dangerous.[11] It would also eliminate the advantage of using commuting time to make business calls. Currently, safety tips and brochures produced by the cellular industry often recommend using hands free dialing, pulling off the road to dial long numbers, or at least waiting to dial until stopped at a light or stop sign.

The 1991 user's guide for the Fujitsu Commander II X phone states: "Paying attention to your driving is your first and foremost responsibility." and suggests the handsfree option. It goes on to suggest: "When possible, dial while your car is not in motion."[12] The GTE Mobilnet Cellular Network User Manual currently states, "In the interest of road safety, it is advisable to pull off the road before placing a call." Other suggestions include having a passenger dial, dial just two numbers at a time, and learning to dial without looking at the phone. It also recommends that the phone be mounted where it can be reached easily and suggests that the user may choose to have a speaker phone installed to enable "hands-free" conversation. A detailed instruction pamphlet on the use of "911" is included.[13]

Since April 1985, the Cellular Telecommunications Industry Association (CTIA), has actively pursued improvements both in products and information dissemination in an effort to improve the safety of cellular phone use while driving. Currently, CTIA's Safety Committee produces a Safety Manual which reviews safety issues in depth and provides recommendations for its members and suggestions for safety brochure inserts for mailouts.[14]

In meeting the need for safety information, the cellular industry launched an annual observance to promote the safe use of cellular phones. May 12-18, 1992, was designated as National Cellular Safety Week in both the United States and Canada. Specific recommendations for the safe use of cellular phones were given including using memory capabilities, hands-free or speaker phone options, and avoiding emotional conversations while driving. Note was also made of the ability of those with cellular phones to report accidents and other occurrences, stating that calls to "911" are free of charge.[15]

GTE Mobil Communications and Honolulu Cellular both produce newsletters for subscribers which frequently discuss such safety issues. According to Anita Seyer, of GTE Mobil Communications, an educational program at the point of sale would help consumers to better understand the safety requirements of cellular phone use.[16]

### Relation to Other Communications Equipment

H.R. No. 377, H.D. 1, requested that this study include "whether other forms of communication, such as two-way radios and pagers, constitute a similar potential risk to motor vehicle safety as cellular phones." No information on this was found but differences which would seem to contradict this hypothesis include:

(1) Other equipment does not require dialing a phone number;

(2) Other equipment is installed in cars for a maximum convenience to the driver with an emphasis on safety. They are not located on the console and rarely require the user to avert their eyes from the road;

(3) Tasks performed on other types of equipment tend to be repetitious such as police or taxi calls to dispatchers for information, or answering a pager;

(4) Two way radios are used by professionals who are trained in the use of such equipment as part of their jobs; and

(5) Police are trained in public safety including highway safety and are most likely an extremely safe group of drivers -- especially while on duty.

While the use of other types of communication equipment may also increase driving risk, this should not deter continued research into the use of cellular phones while driving if such research appears to be warranted.

## ENDNOTES


1. James A. McKnight and A. Scott McKnight, "The Effect of Cellular Phone Use Upon Driver Attention," National Public Services Research Institute, January 1991, p. 20.

2. Lad Kuzela, "Mobile phones unsafe? Suppliers trying to head off legislation," Industry Week, June 19, 1985, pp. 32-34.

3. Georgia Code Annotated, sec. 40-6-241 (1991).

4. Annotated Laws of Massachusetts, sec. 90-13 (1991).

5. Calif. Vehicle Code, sec. 28090.

6. Calif. Public Utilities Code, sec. 2892.

7. Thomas Frisbie, "Talking Mobile," Traffic Safety, Mar./Apr., 1991, p. 26-28, p. 26.

8. Ibid., p. 26.

9. Richard Tapscott, "Car phone measure gets hung up: No evidence offered to support Md. proposal's concern for safety," Washington Post, January 22, 1992, p. D3.

10. "Going places with a car phone," Changing Times, November 1985, pp. 39-41, 41.

11. Ibid., p. 41.

12. Frisbie, p. 26.

13. GTE Mobil Communications, GTE Mobilnet Cellular Network User Manual, 1992.

14. Cellular Telecommunications Industry Association, CTIA Safety Manual, 1992.

15. GTE Mobil Communications, "National cellular safety week set for May 12-18," News Release, May 7, 1992.

16. Memo from Anita Seyer, GTE Mobil Communications, to Mary James, Researcher (September 9, 1992).

# Chapter 5

# FINDINGS AND RECOMMENDATIONS

## Findings

With the phenomenal growth of the cellular phone industry, questions have been raised about the safety of driving while using a cellular phone -- both because of the distraction and the need to hold the receiver or dial by hand. Technology is now available to allow a person to place a call, converse, and end a call by voice commands alone. However, such technology is costly and prohibitive for many who would otherwise use a cellular phone. With the continual decrease in the cost of obtaining and using a cellular phone, people are beginning to purchase them for uses which are not business-related and, therefore, cost is particularly important.

Studies done in the last five years show a definite relation between increased risk and the use of a cellular phone while driving. Risk was measured by such variables as use of brakes, swerving in a lane, and reaction time to various obstacles while the driver performed various functions relating to the use of a cellular phone. However, the results of these studies differed on the amount of risk created by the various components of cellular phone use.

Two actions which appear to increase the risk are dialing long numbers and having heated conversations. Dialing long numbers while driving takes a driver's eyes from the road for too long a time. This not only distracts the driver but also prevents the driver from immediately seeing dangerous situations which may arise while dialing.

Recent studies show an increase in risk approximately equal to the risk of tuning a radio but since most cellular phones are still used as a business tool, the drivers who use them are generally regarded as safe drivers. However, with individual, non-business use increasing, the profile of the driver who uses them may change to those who might not be as careful generally. The addition of a risk factor to driving such as cellular phone use would indicate that safety consequences should be studied and mitigating measures taken if indicated.

On the other hand, cellular phones have also proven to have substantial safety benefits. They can be a lifeline for stranded motorists, they enable motorists to make reports about traffic accidents, congestion, and other non-traffic related emergencies, and, during the recent catastrophic hurricane Iniki, cellular phones proved invaluable for disaster recovery. Both GTE Mobil Communications and Honolulu Cellular provide free "911" emergency calling services.

Secondary benefits of the use of cellular phones include stress reduction by being able to call ahead in instances such as if the driver is running late, and providing the driver with something to do to avoid boredom on long trips (the latter being not particularly applicable to Hawaii).

## Recommendations

Based on the information available to date on possible increased risk, it would seem premature to regulate cellular phone use to any great extent; and because of favorable public response to cellular phones and the benefits derived by them, they should remain easily available. However, legislation that might be considered at this time would include measures requiring that drivers keep one hand on the wheel at all times and requiring car rental companies to provide safety tips and instructions to customers renting cars equipped with cellular phones. While the information mentioned in the second suggestion is probably already provided in information packets, it may not be highlighted either by the rental agent or by being placed in plain view of the driver.

Educational programs and information could aid in public awareness of the problem. A safety tip booklet drafted by the State and similar to the one developed by the California Highway Patrol could be made available in all stores where cellular phones are sold. They could also be included in information received upon purchase.

Safety tips for driving while using a cellular phone should include the following warnings:

(1) Do not dial while driving. Enter frequently called numbers into the memory dialing capability if available. Wait until stopped to dial or pull off the road if it is safe to do so. If it is necessary to dial while driving, dial only a couple numbers at a time.

(2) Keep the cellular phone as close to the driver's line of sight as possible.

(3) Older drivers, those over fifty years of age, should exercise particular care in the use of cellular phones as their responses tend to slow down somewhat with age.

(4) Use a handsfree, voice activated option if available.

(5) Don't engage in intense conversations on the phone while driving.

(6) Use slower traffic lanes and keep extra distance from the car in front.

Gathering empirical information on the actual relationship between the use of cellular phones and accident occurrence would be essential before providing major regulation of the use of cellular phones by drivers, and may, in fact, provide reasons not to regulate. This information could be gathered by requesting the police departments to keep statistics relating to cellular phones and accidents. A request could be made that a special category be added to accident reports to indicate if a cellular phone was present or in use at the time of the accident. This information could be supplemented with interviews of the drivers involved. However, according to Captain Robert Prasser of the Honolulu Police Department, such an addition would be costly since it would entail restructuring the Department's Records Management System.[1]

Another method would be to compare cellular phone use through a comparison of accidents involving cars in which a cellular phone was present and records of calls made. Cellular companies keep records for billing purposes based on when a call is placed and how long it lasts. However, according to Anthony C. Stein, Ph.D., the principal staff psychologist at Systems Technology, Inc., to "look at 500 collisions like that would probably take $750,000, maybe more. It would be the equivalent of a National Transportation Safety Board investigation into each one of them."[2]

Other types of surveys could also provide a basis of information on cellular phone use and safety. The University of Hawaii, College of Social Sciences, is currently surveying police officers to ascertain their perception of the possible dangers of cellular phone use.[3] Carl Kim, Associate Professor at the University of Hawaii Communication Department of Urban and Regional Planning, strongly recommends that more surveys be done, such as a survey of phone owners, requesting whether they have been involved in an accident and what their perception of the risk of cellular phone use is.[4] He noted that driving is a complex activity which is only compounded with the addition of simultaneous cellular phone use.

## ENDNOTES

1. Telephone interview Captain Robert Prasser, Honolulu Police Department, October 21, 1992.

2. Thomas Frisbie, "Talking Mobile," Traffic Safety, Mar./Apr., 1991, p. 26-28, p. 27.

3 Correspondence from Dineh Davis, Assistant Professor, Department of Communication, University of Hawaii, to Ken Takayama, Legislative Reference Bureau, October 27, 1992.

4. Telephone interview with Carl Kim, Associate Professor, Department of Urban and Regional Planning, University of Hawaii, November, 1992.

**Appendix A**

HOUSE OF REPRESENTATIVES
SIXTEENTH LEGISLATURE, 1992
STATE OF HAWAII

# H.R. NO. 377 H.D. 1

# HOUSE RESOLUTION

RELATING TO HIGHWAY SAFETY.

WHEREAS, the enormous popularity of cellular phones is evidenced by the increasing number of people who use them for nonbusiness activities; and

WHEREAS, Hawaii has one of the highest percentages of portable cellular phone use in the nation; and

WHEREAS, the increase in cellular phones has meant a corresponding increase in the number of drivers who utilize a cellular phone while operating a motor vehicle; and

WHEREAS, a 1990 study by the National Public Services Research Institute found that among older drivers who are most affected by cellular phone use, it is the perceptual processes which undergo the greatest decline and that there is significant age-related decrement in general attention, selective attention, attention sharing, and spatial judgment; and

WHEREAS, the younger drivers, who are at the greatest risk of being involved in traffic accidents at high speeds, can readily purchase a cellular phone or have a parent purchase one for them because of the substantial decrease in cellular phone prices over the past decade; and

WHEREAS, cellular phones pose a potentially serious contributing factor to traffic accidents involving younger drivers because of the combination of driving inexperience and the psychological status symbol associated with the active use of a cellular phone, especially while operating a motor vehicle in crowded urban areas; and

WHEREAS, the Legislature expresses deep concern with the potential threat that cellular phone use while driving may pose to the safety and welfare of the driver and passengers, as well as others on the road, by adversely affecting the perceptual responses of the driver and interfering with vehicle control; and

WHEREAS, there are no statistics readily available regarding the extent to which cellular phone usage by the driver has contributed to traffic and pedestrian accidents in Hawaii; now, therefore,

BE IT RESOLVED by the House of Representatives of the Sixteenth Legislature of the State of Hawaii, Regular Session of 1992, that the Legislative Reference Bureau, with the cooperation of the Department of Transportation and the College of Social Sciences at the University of Hawaii, is requested to conduct a study on the effect of cellular phone use upon vehicle control and driver attention in Hawaii; and

BE IT FURTHER RESOLVED that the study shall include, but not be limited to:

(1) The feasibility of educational safety programs conducted by the cellular phone companies at the point of sale;

(2) The feasibility of requiring a "hands-free" option or a "voice-activated" system in order to use a cellular phone while operating a motor vehicle; and

(3) Whether other forms of communication, such as two-way radios and pagers, constitute a similar potential risk to motor vehicle safety as cellular phones;

and

BE IT FURTHER RESOLVED that the Legislative Reference Bureau submit its findings and recommendations to the Legislature not later than twenty days prior to the convening of the Regular Session of 1993; and

BE IT FURTHER RESOLVED that certified copies of this Resolution be transmitted to the Director of the Legislative Reference Bureau, the Director of Transportation, and the Dean of the College of Social Sciences at the University of Hawaii.

# Appendix B

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1455 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96814 - AREA CODE (808) 943-3111

FRANK F. FASI
MAYOR

MICHAEL S. NAKAMURA
CHIEF

HAROLD M. KAWASAKI
DEPUTY CHIEF

OUR REFERENCE CD-LC

March 25, 1992

Honorable Paul T. Oshiro, Chair and Members
Committee on Transportation
Honorable Reb Bellinger, Chair and Members
Committee on Planning and Economic Development
House of Representatives
State Capitol
Honolulu, Hawaii

Dear Chairmen Oshiro and Bellinger and Members:

Subject: House Concurrent Resolution No. 377, Relating to Highway Safety

I am Charles Duncan, Captain of the Traffic Division of the Honolulu Police Department, City and County of Honolulu.

The Honolulu Police Department is in favor of House Concurrent Resolution No. 377, Relating to Highway Safety as it pertains to cellular phone use upon vehicle control and driver attention.

Hawaii is known to have one of the highest percentages of cellular phone use in the nation. The police department is concerned about potential motor vehicle collisions caused by the operators of cellular phones. It has been found that operators perceptual responses are affected while driving, thereby interfering with vehicle control. It has been found in a study by the National Public Services Research Institute that the perceptual processes in older drivers are most affected by cellular phone use.

While there are no statistics readily available regarding the extent to which cellular phone usage by the drivers contributed to traffic accidents, this study will provide the legislature with the necessary information and documentation to address this potentially serious traffic problem in the future.

Thank you for the opportunity to testify.

Sincerely,

CHARLES DUNCAN, Captain
Traffic Division

APPROVED:

for MICHAEL S. NAKAMURA
Chief of Police

UNIVERSITY OF HAWAII TESTIMONY PRESENTED BEFORE
HOUSE COMMITTEE ON TRANSPORTATION

March 25, 1992

by

Dineh M. Davis
Assistant Professor, Department of Communication
College of Social Sciences

HCR377/HR377 RELATING TO HIGHWAY SAFETY

The University of Hawaii supports the intent of HCR377/HR377.

Experience reveals that anytime a new technology is widely accepted by the public, unanticipated secondary impacts may be expected in the social and environmental realm. When such technology is used in conjunction with moving vehicles, it is reasonable to expect that various segments of society, each with their own biases, will view such progress as either beneficial or harmful to the safety and welfare of the community.

There is no question that cellular telephone technology, when first introduced, was seen as beneficial to the needs of the business community. As the equipment and service prices began to decline, it was also seen as a safety feature for individuals who might need assistance on the road, especially at night or in more isolated areas.

Some earlier studies, notably in California, found a positive relationship between safe driving habits and the use of cellular telephones. However, current use patterns in Hawaii appear to be quite different from mainland groups studied in past years.

Before any debate is undertaken that may pit regulating agencies against the industry and potentially disrupt consumer privileges, it would be prudent to conduct an unbiased study to determine whether there is a significant relationship between the use of cellular telephones in moving vehicles and safety factors affecting pedestrians and vehicular traffic.

The College of Social Sciences, and specifically, the Department of Communication will be pleased to participate in such a study in cooperation with the Department of Transportation and the Legislative Reference Bureau if access to necessary records are accommodated and the workload is shared in an equitable manner among the agencies.

Prepared Testimony of
James J. Butler, JR.
Manager of Regulatory and Legislative Affairs
GTE Mobile Communications
March 25, 1992

GTE Mobile Communications would like to thank Representative Bertha C. Kawakami, and the other members of the Hawaii House of Representatives, for allowing us to participate in the hearing of House Concurrent Resolution No. 377 ("HCR No. 377").

While GTE Mobile Communications ("GTEMC") certainly appreciates Representative Kawakami's efforts and willingness to sponsor legislation intended to benefit the citizens of the great state of Hawaii, GTEMC must oppose HCR No. 377.

HCR No. 377 is asking the Hawaiian Legislature to consider the use of cellular phones by motorists to be a potential danger to safe driving and that it may be a contributing factor in an increasing number of Hawaii's traffic accidents. Additionally, HCR No. 377 asks the Legislature to study the feasibility of requiring a "hands free" option in order to use a cellular phone while operating a motor vehicle. It can be inferred that the House believes that the improper use of hand held cellular telephones may be a distraction to motorists.

HCR No. 377 also states that older drivers are most affected by cellular phone use. The Resolution implies that elderly drivers using cellular phones are a risk to other motorists. GTEMC contends that if elderly drivers indeed pose an inherent risk to other motorists, that risk would exist irrespective of whether or not they are using a cellular phone. It may be natural for some to assume that as we grow older physical reaction time slows, eyesight and hearing worsen,and the decision making process is not as quick as that of younger people. In fact, it is absurd to blame cellular telephony as the main cause of any accident regardless of the driver's age,sex, or race.

It is akin to accusing a fast bright red corvette for being the cause of accident whereas the irresponsible driver is truly to blame.

GTEMC submits that Hawaii motorists are in a position to apply good judgement and common sense when using a cellular phone while operating a vehicle, and that it is no more a potential danger then: 1) operating a car radio, cassette tape deck, or compact disc player; 2) eating food or drinking liquids; 3) having young children in the vehicle with no other adult but the driver; or 4) looking and

reaching for maps, directions, cigarettes, cigarette lighters, or sunglasses which may be on the adjacent seat or in the glove box. GTEMC further submits that there are many more examples of distractions which occur so frequently in a typical driver's day that, in a sense, they become almost as routine as turning on one's windshield wipers.

In order to turn a car radio on, adjust the volume, or tune to a different radio station, a motorist's attention is diverted momentarily. The same can be said for the driver of a car who reaches over to the next seat, or worse yet into the back seat, for a cassette tape or compact disc ("CD"). Invariably, a motorist's focus is shifted away from the road and ensuing traffic as they scramble to locate a CD and then load it into their CD player. In most cases, cassette tapes and CDs are kept in a storage type container.

This adds even greater distraction to the driver since there are usually latches that need to be opened; and once the storage box is opened, the driver usually searches for a particular tape which actually forces the driver to peel his eyes away from the road for a few seconds, thereby creating a potentially dangerous situation. Yet there is no pending legislation or study proposing to ban car stereos.

Further, GTEMC believes that it is inconceivable for the Hawaiian Legislature to think that a motorist talking on a cellular phone is any more of a hazard to safe driving than eating food or drinking liquid while driving. The opportunities for disaster that exist for the driver who chooses to eat and drink are tremendous. From spilling hot coffee down your shirt, to opening a straw and inserting it into a carton of milk, to unwrapping a McDonald's hamburger obtained at the fast food window, to wiping off mustard that has seeped onto your pants, to choking on a chicken sandwich, there are literally an infinite number of scenarios which demonstrate the potential dangers associated with eating and driving. Yet there is no pending legislation banning, or study proposing to ban, eating or drinking while driving.

Perhaps an even greater distraction to motorists results from being the lone adult operating a vehicle accompanied by one or more children. This is especially true if the children are infants or toddlers. A baby nursing on a bottle could suddenly gag and spit up. With no other parent or older sibling in the car, a mother's or father's natural instinct is to ascertain whether or not their baby is in serious trouble. Even though this distraction lasts but a few seconds, the parent by focusing his attention away from the road to the child, creates the potential for a dangerous situation to occur.

A four year old child after climbing out of her car seat could roll down her window and stick her head out. Worse yet, that child may throw a book or some other toy out the window or at the driver. A father, in all likelihood, will actually turn completely around to scold the child thereby causing him to momentarily lose his concentration. Again, as is the case with eating and driving, there are an infinite number of things that a child can do to distract his mother or father as they drive. Yet there is no pending legislation or study requiring more than one adult in a vehicle when young children are present.

Moreover, just as the Hawaiian Legislature has never seriously considered legislation prohibiting a motorist from eating a candy bar, changing radio stations, or checking on a young child in the back seat while driving, this Committee should regard HCR No. 377 with equal contempt. The level of distraction for a motorist performing any of the above activities is certainly comparable to that associated with driving and talking on a cellular phone.

GTEMC, nevertheless, fully agrees with HCR No. 377 where it asks cellular companies to conduct educational safety programs at the point of sale. Toward that end, GTEMC is pro-actively moving forward with a plan to include safety information as part of our literature and welcome packets. Our intention is to encourage all motorists who choose to use cellular equipment to take such precautionary measures as practicing before driving, memorizing controls, and continuing to practice safe and defensive driving.

Just as any safe driver must familiarize himself with his vehicle prior to using it to know instantaneously where his lights, emergency brake, hazard lights, windshield wipers, or turn signals are for safe operation of his vehicle, it is important to familiarize oneself with the features of a cellular phone prior to turning the ignition key.

Therefore, GTEMC respectfully requests that this committee consider HCR No. 377 similarly to how it would consider a bill prohibiting the operation of a motorized vehicle while eating, playing the stereo, or having only one adult in a vehicle when young children are present. Such legislation is nothing more than an unwarranted, unnecessary intrusion on the rights of Hawaii's citizenry, and I urge this committee to reconsider passing this Resolution.

This concludes my statement.

JOHN WAIHEE
GOVERNOR

REX D. JOHNSON
DIRECTOR

DEPUTY DIRECTORS
JOYCE T. OMINE
AL PANG
JEANNE K. SCHULTZ
CALVIN M. TSUDA

IN REPLY REFER TO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

March 25, 1992

TESTIMONY OF THE DEPARTMENT OF TRANSPORTATION
ON
HOUSE CONCURRENT RESOLUTION NO. 377
AND
HOUSE RESOLUTION NO. 377

RELATING TO HIGHWAY SAFETY

We support the intent of these resolutions. However, in light of the department's existing priorities and the state's budgetary constraints, we recommend that further action be deferred.

HAWAII INSURERS COUNCIL
A trade association of property and casualty insurance companies

FAXED TESTIMONY



1001 Bishop Street
Suite 1160 Pauahi Tower
Honolulu, Hawaii 96813
Telephone: (808) 521-7233
Facsimile (808) 538-0055

Aileen H. Ueoka
Executive Administrator

TESTIMONY OF WENDELL K. KIMURA
LEGISLATIVE DIRECTOR OF
HAWAII INSURERS COUNCIL

HOUSE COMMITTEE ON LEGISLATIVE MANAGEMENT
REPRESENTATIVE CAROL FUKUNAGA

**HR 377/HCR 377**
Tuesday April 14, 1992
1:30 pm

I am Wendell K. Kimura, Legislative Director of the Hawaii Insurers Council, a trade association representing property and casualty insurance companies in Hawaii.

We support these Resolutions.

These resolutions call upon the Legislative Reference Bureau to conduct a study on the effect of cellular phone use upon motor vehicle control and driver attention.

The Hawaii Insurers Council has actively supported many highway safety programs and traffic safety efforts to reduce the number and severity of accidents in Hawaii. Accordingly, we support these resolutions which, we believe, will promote safety on the highways.

Thank you.

WKK:cnn

# Appendix C

HOUSE OF DELEGATES

21r0303 **No. 75** R5

**(PRE-FILED)**

By: **Delegate Kolodziejski**
Requested: August 12, 1991
Introduced and read first time: January 8, 1992
Assigned to: Judiciary

A BILL ENTITLED

AN ACT concerning

**Motor Vehicles – Telephones – Restrictions on Use**

FOR the purpose of prohibiting a person from driving a motor vehicle on a highway in this State while operating a telephone unless the person operates the telephone in a certain manner; defining a certain term; and generally relating to the use of a telephone by the driver of a motor vehicle.

BY adding to

Article – Transportation

Section 21–1121

Annotated Code of Maryland

(1987 Replacement Volume and 1991 Supplement)

SECTION 1. BE IT ENACTED BY THE GENERAL ASSEMBLY OF MARYLAND, That the Laws of Maryland read as follows:

**Article – Transportation**

21–1121.

(A) IN THIS SECTION, "DRIVE" DOES NOT INCLUDE THE PHYSICAL CONTROL OF A VEHICLE WHILE THE VEHICLE IS NOT IN MOTION, SO LONG AS THE VEHICLE IS NOT OBSTRUCTING MOVING TRAFFIC ON A HIGHWAY.

(B) A PERSON MAY NOT DRIVE A MOTOR VEHICLE ON A HIGHWAY IN THIS STATE WHILE THE PERSON IS OPERATING A TELEPHONE, UNLESS THE PERSON:

(1) IS DIALING A CALL WITH THE VOICE-ACTIVATED, AUTOMATIC, OR MEMORY DIALING FEATURE ON THE TELEPHONE; OR

(2) IS COMMUNICATING WITH THE TELEPHONE HANDSET ON ITS CRADLE.

EXPLANATION: CAPITALS INDICATE MATTER ADDED TO EXISTING LAW.
**[Brackets]** indicate matter deleted from existing law.

SECTION 2. AND BE IT FURTHER ENACTED, That this Act shall take effect October 1, 1992.

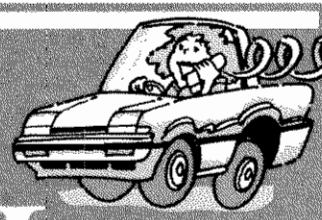
# Appendix D



CALIFORNIA
HIGHWAY
PATROL

CELLULAR
MOBILE
TELEPHONE

# SAFETY TIPS



Have you ever found yourself on the road following another driver deep in a phone conversation? The signs are obvious: Speed varies erratically, the car weaves slightly, head or hand movements are animated. It is an unnerving experience.

Safe driving requires caution, courtesy, common sense, and constant alertness under any conditions. Add the distraction of a cellular mobile telephone, and you have the potential for problems—unless you take special care.

The California Highway Patrol recommends the following safety tips for cellular phone users.

## CHOOSE THE RIGHT EQUIPMENT

Today's cellular mobile phones offer a variety of options, so pick the equipment that offers the most convenience and the least distraction. Memory or speed dialing, electronic scratch pad, and hands-free speaker phone are all features that simplify phone operation.

## LEARN HOW IT OPERATES

Insist on a demonstration of how to use your phone safely at the time of installation or during a test drive. Read the owner's manual carefully.

## INSTALL YOUR PHONE PROPERLY

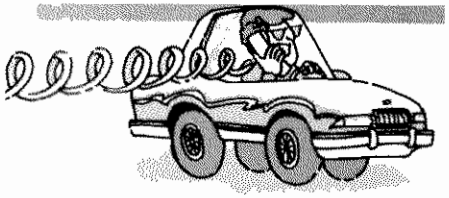
Cellular telephones should be installed for your driving comfort. They should be easily accessible, within comfortable reach in your usual driving posture, and as close to your line of vision as possible.

## TRY IT FIRST!

Practice using your phone while the car is stationary. Familiarize yourself with every feature and every function, from placing to receiving calls.

## USE MEMORY DIALING

Program frequently called numbers into your phone's memory. One number in the permanent memory should be 9-1-1, for emergency calls. If you plan to return a series of calls while on the road, make a list before you leave home or office and store those numbers in the memory.



## ASSESS TRAFFIC

Before using the phone, check out traffic flow and road conditions. If the situation is problematic, wait until conditions improve before making your calls.

## USE COMMON SENSE WHEN DIALING

If possible, dial while the car is not in motion, such as at a traffic light or stop sign. Learn to operate the phone without looking at it. If a number is not programmed into memory and all the digits must be entered, dial in short segments; enter one or two numbers, check the traffic, then dial one or two more.

## USE COMMON SENSE WHEN TALKING

Never allow your phone conversation to distract you from driving. Keep calls brief. Try to stay in the slow lane so that if a conversation becomes intense, you can pull to the shoulder if it is safe to do so. While talking, keep your head up and your eyes on the road, with frequent checks of side and rearview mirrors.

## DO NOT READ OR WRITE WHILE DRIVING

Do not take notes or look up phone numbers while driving. If necessary, dictate notes into a small tape recorder. If you must check information, arrange to call back and do your research while the car is safely stopped.

# EMERGENCY REPORTING

## CALLING

# 9-1-1

One of the greatest benefits of cellular mobile telephones is their use in reporting emergencies. An incident is considered a 9-1-1 emergency *if it requires immediate action.* Such emergencies include:

- A traffic accident
- A traffic hazard, such as a disabled vehicle or debris blocking the roadway
- A reckless or suspected intoxicated driver
- A medical emergency
- A fire
- A driver in distress
- A crime in progress

Note: 9-1-1 should be used ONLY for emergencies. If you need road or weather conditions or a phone number, call directory assistance (411) for help.

There is no charge for mobile 9-1-1 calls in California. Each mobile call is answered by a California Highway Patrol dispatcher who will in turn notify the appropriate response agency. When using 9-1-1, be prepared to provide *specific* information so that immediate action can be taken. Information regarding your location and the location and nature of the emergency is critical. If possible, be ready to give the dispatcher the following information:

### YOUR LOCATION AND THE LOCATION OF THE EMERGENCY

1. State, interstate, or county/city road number or name
2. City
3. Closest major cross streets or off-ramps
4. Direction of travel
5. Mileage marker reading (markers are found on all state highways and some county roads every one to three miles along shoulder, and on bridges and overcrossings).
6. Any distinguishing landmarks

### NATURE OF THE EMERGENCY

These are the questions you should be prepared to answer when reporting an emergency.

### AN ACCIDENT

Are there injuries? Are emergency services required? How many vehicles are involved? Is a tow truck required? Are traffic lanes blocked? Did you witness or come upon the accident? Has a spill occurred?

### A RECKLESS OR SUSPECTED DRINKING DRIVER.

Describe the car; license number (use your electronic scratch pad to record); street, highway or freeway name; location (nearest cross street or off-ramp); direction of travel; and approximate speed. How long ago did you see it?

### TRAFFIC HAZARD.

Describe the hazard (disabled vehicle, debris in road, etc.). How many lanes are blocked? What equipment might be needed to remove the hazard?

### MEDICAL EMERGENCY.

What is the nature of the emergency (heart attack, accident victim)? Symptoms? Victim's approximate age? Ambulance required?

### FIRE.

What is on fire? Is it spreading? Location?

### CRIME IN PROGRESS.

What kind? Are weapons involved? Are there injuries?

In every instance, the dispatcher will request your name, mobile telephone number, and office or home number in case additional information is required. **Stay on the line** until the dispatcher says he or she has enough information to send assistance. Above all, **NEVER RISK YOUR PERSONAL SAFETY.**

**ALWAYS WEAR YOUR SEAT BELT**