

Warning: Using a Cellular Phone While You Drive May Be Hazardous

By: Kenneth Wayne Jackman II

As people increasingly communicate by cellular telephones, growing evidence suggests their use by automobile drivers is contributing significantly to accidents. Only a few American states have legislated on this problem, and those but minimally. The hazard factor involves basically driver distraction. But legislation restricting driver cell phone usage would be premature at this time. The urgent need is for much more information on the scope and nature of the hazard problem. Steps should be taken now to ensure that auto accident reporting systems will take thorough account of the degree to which driver cellular phones are implicated.

INTRODUCTION

The cellular phone industry is one of the fastest growing and most rapidly developing industries of the 1990's. Ten years ago it was rare for the average American to possess a cellular phone. It was commonly viewed to be the tool of the wealthy business executive. However, in the last several years, cellular phone prices have dropped dramatically, thus giving people from all walks of life the ability to purchase a cellular phone. Today, one is as likely to see a high school student with a cellular phone as that business executive of the late 1980's. Indeed, the cellular phone industry is experiencing an annual growth rate of 40%, and cellular phone use is expected to reach 80 million users in the United States by the year 2000 (National Highway Traffic Safety Administration (NHTSA) 1997, 1.1).

Clearly the cellular phone has helped revolutionize the way in which Americans conduct both business and pleasure, because one never need be out of touch with business associates, family, friends, etc. The nearest phone is usually only a purse or a pocket away. However, this convenience is causing a serious safety problem with which lawmakers are just beginning to grapple. As cellular phone use has increased, so has the number of accidents and near accidents caused by people using their cellular phones while driving. In fact, ten foreign countries have adopted laws that severely limit or eliminate cellular phone use while driving. However, lawmakers in the United States have been hesitant to enact legislation limiting or eliminating cellular phones. This creates a situation in which lawmakers must balance the safety of society against the exercise of a personal freedom. This paper discusses the

association between cellular phones and motor vehicle accidents, analyzes the limited steps that have been taken by lawmakers, and recommends a strategy lawmakers should follow as they attempt to deal with this increasingly complex problem.

SAFETY HAZARD?

The first hurdle lawmakers face in dealing with cellular phones on the road is deciding to what extent cellular phone use affects driving ability, thus creating a safety hazard. Most people, including those in the cellular phone industry, agree that cellular phones can be distracting when used by drivers. In fact, the industry prides itself on the safety literature that is distributed with each cellular phone that is sold. This literature contains such advice as, "Avoid complicated or emotional conversations" and "In heavy traffic or hazardous conditions, let your voice messaging service take the call. Check and return your messages after locating an accessible exit or rest area" (Ameritech Cellular n.d.). Nonetheless, the industry maintains that cellular phone use is no more distracting than adjusting the radio or eating a hamburger while driving, and therefore no special restrictions are needed (Jackman 1999). The industry argues that its customers understand the caution they should exercise while using a cellular phone. Nevertheless, preliminary research suggests that there is a strong association between cellular phone use and motor vehicle accidents.

In February of 1997, the *New England Journal of Medicine* published a study that examined the relationship between cellular phone use and automobile accidents. The researchers studied 699 drivers over a fourteen-month period who had cellular telephones, and who were involved in motor vehicle collisions resulting in substantial property damage but no personal injury. Each person's cellular telephone calls on the day

Kenneth Wayne Jackman II is a junior majoring in Political Science at the University of Utah. He is currently serving a Hinckley Internship in Washington, DC for Senator Robert F. Bennett (R-Utah).

of the collision and during the previous week were analyzed through the use of detailed billing records. The results of the study seem to show that cellular phone use is much more distracting than adjusting the radio or eating a hamburger:

We found that using a cellular telephone was associated with a risk of having a motor vehicle collision that was about four times as high as that among the same drivers when they were not using their cellular telephones. This relative risk is similar to the hazard associated with driving with a blood alcohol level at the legal limit (Redelmeier and Tibshirani 1997, 456).

The implications of this study are enormous. Society has little patience for those causing accidents due to their alcohol consumption, and now the use of cellular phones by drivers is coming to be seen as a comparable problem. As cellular phone use continues to grow, one must ask whether society will continue to accept the potential cost of this relatively new technology. To be sure, these researchers acknowledge that much more research is needed before any definitive conclusions are drawn. They stress that this study is only the first of many that will surely follow. However, the researchers also declare that the association between cellular phone use and automobile accidents is not just a casual one, and it should not be taken lightly by the public, lawmakers, or the cellular industry (Redelmeier and Tibshirani 1997, 457). Further research may only confirm what that first study shows.

Many people believe that the solution to erratic driving by cellular phone users is to require the use of hands-free telephones. Many relatively cheap hands-free options are available to cellular phone users. If one has both hands on the steering wheel, it might be supposed that most of the safety problems would be eliminated. However, Redelmeier and Tibshirani concluded that they "observed no safety advantage to hands-free as compared with hand-held telephones" (1997, 456). They theorized that "motor vehicle collisions result from a driver's limitations with regard to attention rather than dexterity" (1997, 456). Dr. David Strayer, an Associate Professor of Psychology at the University of Utah, has also conducted research on the effects that cellular phone use has on the ability of drivers to react. On the basis of his preliminary research, Dr. Strayer concluded that hands-free devices do not increase the safety of cellular phones:

Control studies showed that the decrements in performance were not due simply to holding a phone, listening, or speaking, but were due to the increased attentional demands incurred during cellular phone use. Thus, hands-free cellular phones will not help because the deficits are primarily due to limits of human attention (Strayer 1999).

These studies show that the difficulty of safely using the cellular phone while driving is not in dialing, holding, or answering the phone, but in the fact that one's attention is diverted from driving to talking on the phone. The *New England* study also concludes that one's risk of an accident is substantially higher even six minutes *after* the call is terminated (Maclure and Mittleman 1997, 501). This is likely

because the driver's attention is still not entirely focused on driving. Hence, simply mandating the use of hands-free phones will not solve the problem.

Furthermore, Dr. Strayer asserts that cellular phones cause a distraction far different from other distractions commonly associated with automobiles, e.g., eating or adjusting the radio. First, the driver/cellular phone user has no control over when he will receive a call. With other distractions in the car, the driver has some control over when they occur, and should driving conditions become difficult the driver can easily end the distraction, e.g., quit eating or putting on make-up. Second, carrying on a conversation is an interactive activity that requires a lot of attention to be devoted to the conversation. The more serious or important the conversation, the more attention that must be devoted to maintaining it. Carrying on a conversation requires much more attention than passively listening to the radio or sipping a soda. Therefore, the risks associated with cellular phone use are much higher than other common distractions simply based on the nature of the talking on a cellular phone.

Another common argument is that talking to another person in the automobile distracts the driver just as much as talking on a cellular phone. However, Dr. Strayer says that this argument is also false. When two people are having a conversation in an automobile, both individuals are aware of the driving conditions. As the driving conditions become increasingly difficult, conversation will decrease between the individuals. By contrast, the person at the other end of the cellular phone may not even be aware that the caller is driving and will not react to a change in driving conditions. Therefore, talking on a cellular phone is very different from talking to another person in the same automobile.

It is also important to compare the length of a cellular call with other common distractions such as changing the radio station. The Cellular Telecommunications Industry Association (CTIA) reports that an average cellular conversation lasts 2.15 minutes. If one includes dialing and hanging up the phone, it is reasonable to assume an average of 2.5 minutes per call. At 65 mph, 95.3 feet of roadway are covered each second. For a 2.5 minute phone call this translates into approximately 2.7 miles of roadway that are traveled while the driver's attention is shared between the road and the telephone (NHTSA 1997, 3.3). One can clearly see the danger involved when a driver's attention is diverted for an average of 2.7 miles of roadway. Although changing the radio station may cause a momentary distraction, it is very small compared to a 2.5 minute phone call.

Significantly, all research conducted thus far indicates that cellular phone use while driving may be dangerous. To date, apparently no studies exist that refute the claims made in these preliminary studies. Even though researchers stress that more research is necessary before lawmakers take any definitive action, these findings must be taken seriously.

CRASH DATA

Given what the evidence suggests, the next important question is the magnitude of the problem. That is, how many accidents each year are caused by people using cellular phones while driving? The logical place to find that information is the police crash reports. These reports, filled out by law enforcement officers at the scene of an accident, show factors that commonly contribute to an accident, i.e., excessive speed, bad weather, etc. However, as of 1999 only two states, Oklahoma and Minnesota, include "cellular phone use" as a possible factor on their police crash reports, and only these two states train their police officers to check for such use as a factor contributing to the accident. The other forty-eight states do not easily provide a way for police officers to include "cellular phone use" as a contributing factor. Therefore, it is very difficult to accurately judge the magnitude of the problem. Nonetheless, an examination of the data from Oklahoma and Minnesota, as well as of some additional data provided by the NHTSA, does provide some partial answers.

The official Oklahoma traffic collision report includes two categories that deal with cellular phones. The first, "telephone installed," is checked by the investigating officer if the officer sees evidence of a cellular phone in the automobile, e.g., installed units or large portable units that are easily visible. If the officer sees evidence of a cellular phone, the officer then inquires whether the telephone was in use at the time of the crash — the second category. If both of the qualifications are met, it is likely that cellular phone use was at least a factor contributing to the crash. In 1994, cellular phone use contributed to at least 119 automobile crashes in Oklahoma. By 1997, this figure had increased to 148 automobile crashes with two fatalities also attributed to cellular phone use (Oklahoma Highway Safety Office 1998). In the span of three years, automobile crashes attributed to cellular phone use have increased by nearly 25%, and the number is expected to grow as cellular phone use expands among the general public.

It is true that crashes attributed to cellular phones are less than one percent of the overall auto accidents reported in Oklahoma. However, as noted above, this number is growing rapidly. Furthermore, Oklahoma's method of attributing crashes to cellular phone use arguably contains some flaws that lead to under-reporting of crashes caused by cellular phones. First, the reporting officer will probably check the "telephone installed" category only if evidence of a phone is visible. In its absence, the officer is unlikely to ask whether a phone was in use at the time of the accident. The problem with this system of reporting is that the great majority of cellular phones in use are tiny pocket models that will not be visible to the officer. In 1995, the CTIA reported that 73% of all cellular phones sold were the pocket models, and this percentage has only grown since 1995 (NHTSA 1997, 1.1). Also, culpable drivers may not actually admit they were using

their cellular phone at the time of the crash, and the officer is not usually expected to check cellular phone records to verify cellular phone use. Therefore, the method Oklahoma uses to attribute crashes to cellular phone use most likely leads to considerable under-reporting.

The State of Minnesota also includes cellular phone use in its police auto-crash reports, and based upon preliminary data, the problem is also increasing dramatically there. In 1996, police cited cellular phone use as a contributing factor in 89 accidents, including one fatality. In 1997, this figure rose to 111 crashes with zero fatalities (Minnesota Office of Traffic Safety 1998). As in the case of Oklahoma, this is nearly a 25% increase in crashes attributed to cellular phone use, but in Minnesota this increase was in the space of a single year. Again, as in Oklahoma, cellular phone use is in less than one percent of the total number of auto accidents in the state, but is increasing at an alarming rate.

In addition to the reports available from Minnesota and Oklahoma, the NHTSA has also attempted to compile data in North Carolina. In North Carolina the police reports have a narrative section that officers use to describe, in a few sentences, the circumstances of an accident. This allows the officer some leeway in describing the accident, including comments such as cellular phone use, not in one of the normal categories. For the years 1989 to 1995 the NHTSA analyzed these narratives. It found only a relatively small number of crashes were attributed to cellular phone use, but it suggests this small number is once again due to under-reporting. However, the NHTSA also concluded:

In addition, the findings suggest an increase in cellular telephone related crash frequency as more cellular telephones become available. Furthermore, as the functionality of cellular telephones is expanded to include more "demanding" tasks (e.g., access to the Internet, email, faxing, etc.), there is concern that there will be an associated increase in risk where these services are accessed from a moving vehicle (NHTSA 1997, 4.6).

In summary, raw data pointing to the magnitude of the problem of cellular phone use by drivers is very limited, and it is difficult to draw definitive conclusions. Only two of the fifty states even attempt to compile data regarding drivers' cellular phone use, and these states' reporting methods likely lead to under-reporting of the actual number. Nevertheless, this limited data shows that the number of crashes attributed to cellular phone use is increasing rapidly. This is reinforced by the NHTSA's study in North Carolina.

LEGISLATIVE INITIATIVES

Lawmakers have not ignored the problem. Since 1995, in at least twenty states in the United States, legislators have proposed bills concerning cellular telephones in automobiles (Sundeen 1999, 2). Nevertheless, most lawmakers are still trying to decide how exactly to address the issue.

In 1988, the State of Victoria in Australia became the first jurisdiction to address the issue by banning the use of hand-held telephones while driving. Since 1988, nine other countries have followed Australia's lead with such prohibitions. These countries include Spain, Israel, Portugal, Italy, Brazil, Chile, Switzerland, the Republic of Singapore, and Great Britain (NHTSA 1997, 1.4; Sundeen 1999, 3). The NHTSA reports that this legislation has been based on research studies or on empirical observations, but it is not clear what specific findings, observations, or incidents may have prompted the various laws (NHTSA 1997, 1.4). Furthermore, several other countries, including France, Germany, Austria, and the Netherlands have considered or are currently considering similar legislation. However, the effectiveness of the enacted legislation is unclear due to lack of data.

Although some countries in the international community have already acted upon cellular phone use, the United States government has not passed any legislation specifically restricting the use of cellular phones. The federal government has not acted as traffic safety laws and enforcement traditionally have been within the jurisdiction of state laws (Sundeen 1999, 2). Therefore, state and local governments have been left to decide the matter on their own. All states make reckless or careless driving illegal, and some states even have laws making distracted driving illegal (NHTSA 1997, 1.4). In some limited cases, individuals have been held liable for driving carelessly while using their cellular phone. However, they were cited for driving carelessly or inattentively, and not specifically for using their cellular phone although the cellular phone did cause the careless driving (NHTSA 1997, 1.4).

As stated previously, legislators in at least twenty states have proposed bills concerning cellular phone use in motor vehicles, and some states are currently considering them. To date, only three states have passed any such legislation, and these laws are very minimal. It is worth noting these simply because they are the only instances.

In California, rental cars with cellular telephone equipment must include written operating instructions for safe use. In Florida, cellular phone use is permitted in an automobile as long as it provides sound through one ear and allows surrounding sound to be heard with the other ear. In Massachusetts, car phones are permitted as long as they do not interfere with vehicle operation, and drivers keep one hand on the steering wheel at all times (Sundeen 1999, 2).

Also, the State of Washington adapted its laws to provide an exemption for certain approved "hands-free wireless communication" devices, from the general ban on the use of headphones and earpieces while driving (Office of Legislative Research and General Counsel 1998). Other legislative proposals have included banning the use of all cellular phones while driving, requiring hand-free phones, length restrictions on phone calls, requirements to keep one ear free, solicitations restrictions, and improved data collection (Sundeen 1999, 3).

On March 22, 1999, the City Council of Brooklyn, Ohio became the first governing body in the United States to severely restrict cellular phones by banning the use of hand-held cellular phones while driving (Tebben 1999, 1A). According to John M. Coyne, Mayor of Brooklyn, the issue was brought to his attention when police determined that an inattentive driver on a cellular phone caused a minor accident involving two cars in Brooklyn (*Deseret News* 1999). The city ordinance makes it a minor misdemeanor to use a cellular phone while driving unless both hands are on the steering wheel. There are some special exceptions to the law. Mayor Coyne says:

"This is an awakening call. Everyone's been talking about it, but nobody's done anything about it. Maybe we can stimulate interest nationwide. Our job is to provide for the health, welfare, and safety of people. This is safety" (Tebben 1999, 1A).

Brooklyn's ordinance is the first of its kind in the United States, and it will be watched closely by many other legislative bodies. However, analyzing the effectiveness of the new ordinance is likely to be difficult. First, Brooklyn's population is quite small so any data will be very limited. Also, Brooklyn has no specific data from past years showing the number of accidents caused by cellular phone use. Therefore, it will be impossible to accurately compare data to see what effects on safety the ordinance has had. Nonetheless, this ordinance is a bold step for the city, and it sets a precedent that other cities or states may copy. By blazing the trail, Brooklyn has made it easier for other governing bodies to follow its lead.

CELLULAR PHONE DEBATE IN THE STATE OF UTAH

The debate surrounding bills restricting cellular phone use has been basically the same in all states involved. Namely, opponents assert that these phones are not a significant safety hazard, more research is needed before taking action, such laws are blatant attacks on personal freedoms, and any cellular phone law would be difficult to enforce. Therefore, it is useful to follow the debate in one state that has recently considered the problems of cellular phone use by drivers to examine what happened and why.

Utah is one of the states that has recently been dealing with the problem of cellular phones. In the 1998 legislative session, Senator Robert Steiner (D-Salt Lake City) introduced a bill that would have made a person's use of a hand-held cellular phone while driving a minor infraction, similar to a parking ticket. However, this bill was defeated in the Senate Transportation and Public Safety Committee by a vote of 3-2, and was never debated by the full Utah Legislature. State Senators decided it was not really an issue they wanted to consider at that time (Van Eyck 1998, B1). However, in the 1999 legislative session the issue was once again brought into the public eye by Representative Ralph Becker (D-Salt Lake City). Representative Becker began

thinking about the problem with cellular phones while driving due to his "own personal use of cellular phones and his observations of other inattentive cellular phone users" (Becker 1999). Many legislators in other states who have considered the problems of cellular phones, also cite personal experience with inattentive cellular phone users as their reason for proposing the legislation (Cockfield 1999, G19; Hoppe 1999; LeDuc 1999, B01; Jakes 1997, A1).

Representative Becker decided to open a bill file to "research the issue and evaluate first, if there was a safety hazard with cellular phones, and second, if legislation was a feasible solution" (Becker 1999). After meeting with law enforcement officers, public safety officials, researchers, and representatives from the cellular phone industry, he decided not to introduce a bill into the legislative session. Instead, he established a task force to better study the problem and recommend action. As of this writing, Representative Becker did not know if he will be running a bill in the near future. First, he "wants to see the results of the task force before making a decision," and second:

One must see if and when a bill restricting cellular phone use will be politically possible. There is no question in my mind that using the cellular phone while driving is a safety issue, but doing something about it is a different matter. It would be difficult to pass a bill limiting cellular phone use with the current composition of the Utah Legislature (Becker 1999).

He faced the same arguments cited earlier, i.e., difficult to enforce, lack of data, etc. (Jackman 1999). Therefore, he concluded that it would be more appropriate to establish a task force before taking legislative action. Use of task forces and substantial studies has also been considered in other states including Ohio and Wisconsin (Tebben 1999, 1A; Distracted Driving Task Force 1997).

Representative Becker is not the only person in Utah who believes cellular phones pose a safety hazard. In a statewide poll of Utahns, just more than 55% of respondents strongly or somewhat favored restrictions on people's cellular phone use while driving (Dan Jones & Associates 1999). Significantly, this poll did not mention any specific type of limitation so it is unclear how much legal restraint Utahns would support. Also, slightly more than 40% of the citizens were strongly or somewhat opposed to any restrictions at all. Therefore, the issue is one that evokes many different responses, and one which will arise again in Utah. Based upon poll results in other states, the same may also be said across the nation (Jakes 1997, A1).

CONCLUSIONS AND RECOMMENDATIONS

The first issue addressed in this paper is deciding to what extent cellular phone use while driving is a safety hazard. On the basis of the research and evidence available, one must conclude that it is hazardous. It seems likely that as cellular phone use increases among the general public, the number of

cellular-phone-related auto crashes and fatalities will also rise. However, much research must be conducted to validate these preliminary findings. Governments (federal, state, and local) as well as interested private entities, e.g., insurance companies and the cellular phone industry, should collaborate in more studies. Only then will it be known whether the problem is truly comparable to driving under the influence of alcohol.

The second question addressed was deciding the magnitude of the problem. That is, how many people are actually in auto-accidents caused by cellular phone use. Unfortunately, it is difficult to determine an accurate number because statistics are poorly kept that deal with that subject. Only two states keep such statistics. This is entirely unacceptable. There is enough evidence showing that cellular phones are a safety hazard that some action surely needs to be taken, to better enable us to understand the problem. Each state should include cellular phone use as part of its police reports, and law enforcement officers should be trained to carefully question any person involved in a crash if a cellular phone was being used. If a law enforcement officer suspects cellular phone use was a contributing factor, legislation should be passed granting law enforcement officers access to cellular phone records. These records would clearly show whether a cellular phone caused the crash. These solutions involve only minor changes of policy, and the cost would be minimal to the state. However, the benefits of such small changes would be enormous.

The third area of this paper was to analyze the limited steps taken by lawmakers. Based upon preliminary evidence showing that hand-free devices do little to increase safety, lawmakers in the international community may have been rash to eliminate hand-held cellular phones. It seems they acted with very little data to validate banning hand-held telephones. The same may be said of Brooklyn, Ohio. These laws were probably passed on a large amount of emotion and a small amount of actual data. This does not make for good public policy. That leads to the question: For the public's safety, should lawmakers ban all cellular phone use by people while they are driving?

The short answer is no. The relevant information is much too limited at this time. Cellular phone use is viewed by the American public as a right, and the Americans will not accept government attempts to ban cellular phone use without validating data. As is evident in the case of Utah, certain questions must be answered before it becomes politically feasible, or even necessary, to ban cellular phones. Furthermore, it would not be fair to the cellular industry to ban or restrict its product without sufficient evidence. The best strategy now for American lawmakers is to mandate accurate police reporting and assist researchers as they better come to understand the safety implications of cellular phone use. Once lawmakers have the data, they will be able to decide whether cellular phone use by drivers should be completely banned, simply restricted, or remain unregulated. If

lawmakers begin immediately, the data could probably be obtained in three to five years. Only then will lawmakers have the necessary basis for enacting laws that are good public policy in this area.

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